Hungry for Change: Tackling Obesity and Food Insecurity in the North of England

A report prepared for the Child of the North All-Party Parliamentary Group

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FOREWORD

Emma Lewell,
MP for South Shields
and Chair of the Child
of the North APPG

The burden of food insecurity and poor nutrition is growing across the North of England. Families with young children in the North are significantly more likely to live in food-insecure households than those in the South. Children in the North face a double injustice: their families are more likely to struggle to afford or access healthy food, while also living in environments saturated with fast food outlets and aggressive junk food advertising. Food insecurity in early childhood is not just a nutritional crisis but a social one. It affects children's physical health, increasing risks of obesity and tooth decay, undermines cognitive development and behaviour, and strains parental mental health and household wellbeing.

This stark North South divide demands urgent, targeted action, from better screening in prenatal care to reformed infant nutrition policies and stronger support for families in the early years. Without it, we risk continuing to lock in health inequalities from birth.

Obesity is also a growing concern, particularly in deprived areas. In the North East children are again disproportionately affected with nearly one in four Year 6 children living with obesity- that's five percentage points higher than in the South West. The pandemic widened this gap, and it is yet to be closed. Its root causes, poverty, unhealthy food environments, and insufficient early intervention, are all preventable.

The recommendations in this report are practical and urgent: improve access to healthy food, restrict fast food outlets near schools, tighten advertising rules, and support community food initiatives.

It is welcome that the Government have pledged to extend Free School Meals to all children in families on Universal Credit. This is a vital step, but far from the only one we must take.

This report offers a clear roadmap for change: it centres the voices of those with lived experience, champions grassroots food solutions, and calls for sustainable investment in healthier futures. The inequalities facing children in the North are not inevitable, and they can be changed.

LIVED EXPERIENCE FOREWORD

Penny Walters,
Food Ambassador,
Newcastle

Food insecurity has been a persistent reality for my family, shaped largely by inadequate welfare policies and the rising cost of living. Over the years, the support we've received simply hasn't kept pace with inflation. Benefits have been cut or frozen, while food prices, rent, fuel, and basic household items have continued to rise sharply. As a result, accessing healthy and nutritious food has become increasingly difficult.

Cooking from scratch is often presented as a solution, but it requires more than ingredients - it requires fuel, appropriate kitchen equipment, and knowledge. When even one of those elements is missing, families are left without real options.

Schemes such as Healthy Start are well-intentioned but insufficient. A £4.25 weekly allowance for pregnant women does not begin to cover the cost of essential items such as infant formula, which can cost up to £10 per container. This leaves little or nothing for fruit, vegetables, or other vital foods.

For many years, I have volunteered with community organisations that have become a vital safety net for families like mine. These organisations, often operating on minimal funding, are run by volunteers who provide not just food, but budgeting advice, cooking skills, and a sense of community. Through my involvement with the Byker Pantry, Feeding Britain, and as a Food Ambassador working alongside the Food Foundation, I've been able to use my voice to advocate for healthier, more affordable food and to highlight the need for structural change.

Dignity is a critical part of support. Initiatives like social pantries offer people choice and agency, something that traditional emergency food parcels do not. It transforms a crisis response into something that feels more like a weekly shop.

To address food poverty in a meaningful way, we must increase household income and lower the cost of healthy food. It is unacceptable that large food corporations continue to post record profits while farmers are underpaid and families are priced out of a balanced diet.

To policymakers, I would urge this: step outside of Westminster and engage with communities living this reality. We need stronger political representation that truly reflects our lived experience. Auto-enrolment for schemes such as free school meals and Healthy Start should be standard. The two-child benefit cap must be lifted. And we need more well-funded community hubs where people can seek advice and support without stigma.

Food insecurity is not about poor choices - it is about a lack of choices. It is about affordability, access, and dignity. We, the people living it, are the experts. It's time for our voices to shape the solutions.

EXECUTIVE SUMMARY

60 Second Summary

For many children across the North of England, growing up in poverty is an all-too-familiar reality. As poverty deepens, rates of obesity and food insecurity climb in tandem, with families in the North often bearing the weight of these challenges most acutely.

This report delves into the complex relationship between poverty, place, and health, exploring how socioeconomic disadvantage and regional inequality combine to drive child obesity and food insecurity in the North. In doing so, it reflects on the challenges and opportunities that shape children's health across the life course - from conception through to early adulthood.

We find that households with children in the North are significantly more likely to experience food insecurity than those in the South, a disparity rooted largely in deep-seated economic inequality.

The report highlights stark regional differences in childhood obesity, particularly among children in Reception and Year 6, underscoring the persistent link between deprivation and poor health outcomes.

Our analysis also examines how food insecurity among pregnant women can adversely affect diet quality and increase the risk of maternal obesity. We explore the role of local food environments, revealing that communities in the North are disproportionately exposed to fast food outlets and unhealthy food options.

We are calling for a joined-up approach to tackling childhood obesity and food insecurity, one that targets poverty, addresses regional inequality, and delivers focused support across the life course. Without urgent action, the inequality facing children in the North will only deepen.

KEY FINDINGS

Households with children are twice as likely to be food insecure than households without children

In the North, households with children have significantly higher levels of food insecurity than those in the South – rising by 5.5 percentage points in the North, compared to 3.8 percentage points in the South between 2019-20 and 2022-2023

There are clear regional differences in childhood obesity prevalence at Reception age: **highest in the West Midlands at 10.9%, North East is 10.8% and 10.7% in Yorkshire and the Humber - compared to 8.4% in the East of England**

The highest prevalence of childhood obesity is in the North East at 24.5% compared to 19.1% in the South West

At local authority level, the North-South divide in obesity at Reception age is further evident with the highest prevalence in Hartlepool (13.9%) compared to the lowest in Wokingham (5.7%)

Among children in Reception year in England, the prevalence of obesity is more than twice as high in the most deprived areas (12.9%) compared to the least deprived (6.0%). Severe obesity in this age group affects 4.1% of children in the most deprived area - nearly four times the rate in the least deprived areas (1.1%)

Between 2013/14 and 2020/21, the overall prevalence of obesity at Reception age group rose from 6.0% to 7.8%. Over a similar period, the deprivation gap also grew, from 6.1 percentage points to 6.9, reflecting a deepening divide between children in the most and least deprived areas

Around a fifth of the rise in child obesity in 4-5 year olds from 2015-2022 was due to a rise in poverty

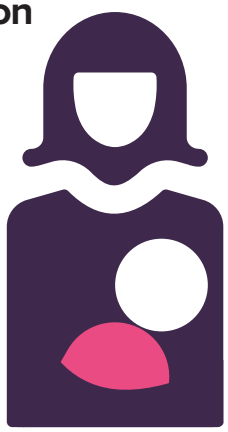
Maternal obesity is highest in the North East at

27.1%

followed by Yorkshire and Humber at

25.6%

The North East also has the highest proportion of pregnant women with preconception diabetes



25%

of pregnant women in the northern regions of England are living in the most deprived

10%

of areas - contrastingly, **5% of pregnant women in the South East live in the most deprived 10% of areas**

Children in the North are less likely to be breastfed than in other parts of England. In 2023/24, the North East had the lowest breastfeeding prevalence at 38.5%, while the East of England reported the highest at 59.3%

Levels of food insecurity are significantly higher amongst households with children aged 0-3 in the **North (30%) compared to households with young children in the South (including London) (23%)**

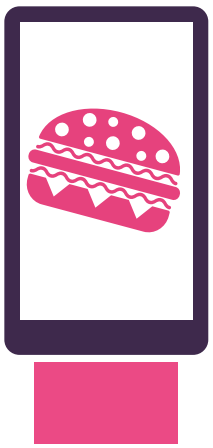
In 2019-20, around 14% of children living in the North West and Yorkshire and the Humber experienced tooth decay, whereas levels in the South East and East of England were around 7-8%

People in the North saw a relative increase in the share of the population living within 1 km of their nearest fast food outlet by

84%

this was largest in the North East where this figure more than doubled

There are over **8 times more outdoor food advertising placements in the ten most deprived constituencies** (five of which are in the North) than there are in the ten least deprived constituencies (two in the North)



RECOMMENDATIONS

1. **Recognise and address poverty as a root cause of childhood obesity:** Policymakers should acknowledge poverty as a key determinant of child health and prioritise policies that alleviate its impact.

2. **Strengthen social welfare support:** Reverse cuts to welfare benefits, such as the two-child limit and the reduced benefit cap, to reduce financial strain on low-income families and improve child health outcomes.

3. **Expand access to nutritious food:** Improve access to affordable, healthy food in low-income communities through targeted subsidies, community food programmes, and local planning measures.

4. **Promote physical activity in deprived areas:** Invest in safe, accessible spaces for physical activity, including parks, walking and cycling infrastructure, and school-based initiatives.

5. **Restrict fast food outlet expansion in high-risk areas:** Implement stricter licensing and planning controls to limit new fast food outlets in the most deprived neighbourhoods, areas with already high density, and near schools or other child-focused spaces.

6. **Introduce universal free school meals:** Provide free school meals to all children to improve nutrition, combat stigma, and support families struggling with the cost of living.

7. **Reinvest in early years services:** Restore and expand investment in early intervention programmes such as Sure Start children's centres to address early-life risk factors linked to obesity and inequality.

8. **Strengthen the Healthy Start Scheme**
   - Increase the Value of Healthy Start: Ensure the scheme reflects the real cost of purchasing essential items like fresh fruit and vegetables, infant formula, and dairy products—supporting families to meet their children's nutritional needs.
   - Extend Eligibility to All Children Under School Age: Close the current gap in support for children aged four who are not yet in Reception, ensuring continuous access to Healthy Start during early childhood.
   - Introduce Automatic Enrolment: Shift to an opt-out system for families on qualifying benefits who meet income criteria, removing unnecessary barriers and ensuring eligible families don't miss out.
   - Broaden Eligibility Criteria: Expand the scheme to include all families with young children receiving income-replacement benefits and Child Benefit, eliminating restrictive thresholds that complicate access and contribute to stigma.

9. **Ensure fair rollout of new nutrition guidance:** With updated early years nutrition guidance due from September 2025, practical support is essential. Funding and staff training must accompany the rollout to ensure consistent, equitable application.

10. **Appoint an existing or dedicated Minister to have Early Years Food and Health as part of their role:** Establish a dedicated ministerial lead to coordinate policy across the Department for Education, Department for Health and Social Care and the Department for Environment, Food and Rural Affairs, mirroring school food leadership.

11. **Acknowledge and further understanding of an alternative food system** beyond the retail food system, which is run largely by Voluntary, Community and Social Enterprise (VCSE) and based on unstable supplies of surplus food

CHAPTER 1: FOOD INSECURITY IN FAMILIES WITH CHILDREN

Authors: Rachel Loopstra, Rosalyn Arnold, Behnam Tajik and Kath Roberts

Food insecurity has been worsening amongst children in the North
In 2023-24, UK Department for Work and Pensions' Family Resources Survey (FRS) showed that 2.6 million children in the UK were living in food insecure households each month (18% of all children)[2]. This increases to 27% (3.9 million children) when households with marginal food security are included .

Households with children are twice as likely to be food insecure than households without children. Our analysis using microdata from Family Resources Survey data for survey years 2019-20 and 2022-23 shows a significant rise in food insecurity for both households with and without children, but the gap has widened. And as shown in Figure 2, households with children in the North have significantly higher levels of food insecurity than households with children in the South, and experienced a rise of 5.5 percentage points, compared to 3.8 percentage points amongst children in the South over 2019-20 to 2022-2023.

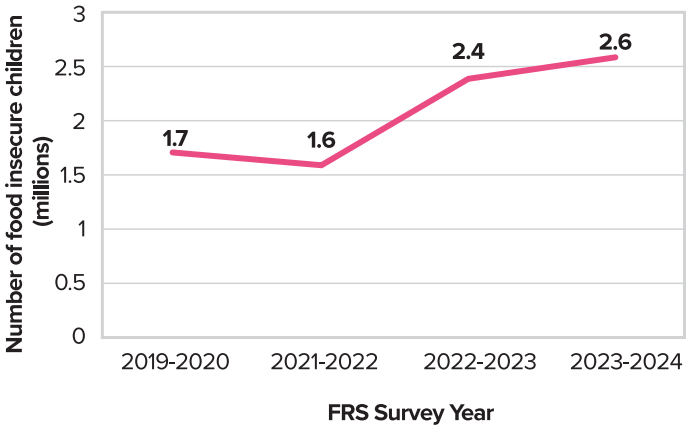
Why do children in the UK face significantly higher levels of food insecurity than households without children?
We have explored this in a new analysis of the Family Resources Survey. Statistical techniques were used to explore what kinds of factors could explain the higher risk of food insecurity amongst UK households with children, things like employment status, household income, whether anyone in a household receives benefits and how much of household income goes towards essential living costs (housing and childcare)[3]. We found that, when these variables were accounted for, the odds of food insecurity amongst households with children compared to households without children was halved from an odds ratio (OR) of 2.80 (95% CI: 2.55 to 3.08) to 1.36 (95% CI: 1.2 to 1.53) (Figure 3).

Why are children in the North at higher risk than children in other parts of England?
Here too, we see that differences in benefit receipt, employment status and household income between the North and South help to explain the higher rates of food insecurity among households with children in the North. Once these factors are taken into account, the regional disparity is no longer statistically significant (Odds of food insecurity in the North compared to the South: OR: 1.06, 95% CI: 0.88 to 1.27), indicating that underlying economic inequalities are driving much of the difference in child food insecurity between regions (Figure 4).

Patterns are consistent, regardless of what data you use: The Food Foundation has also been gathering data on food insecurity over time[4]. While this uses a different method to the FRS, data consistently also demonstrate similar high, but fluctuating levels of food insecurity from 2022 to 2024. We explored food insecurity prevalence rates from the Food Foundation data in the North compared to the Midlands, and South of England (London excluded).

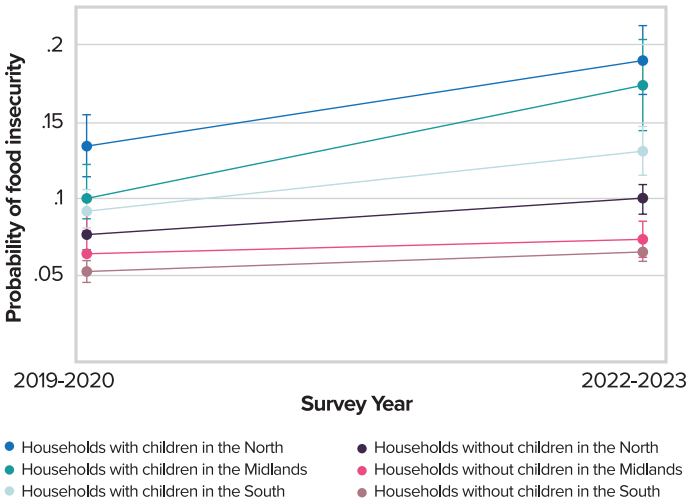
From 2022 to 2024, food insecurity decreased across the UK , but regional and household-type differences persisted. The North consistently showed higher food insecurity rates than the South—especially among households with children (Figure 5). While the gap narrowed by early 2024, households in the North, especially those without children, continued to have greater food insecurity. Economic strain, rising living costs, and variations in local government policies contribute to the observed disparities in food insecurity between regions [5,6].

Figure 1: Number of children in food insecure households in millions from 2019-20 to 2023-24. Source: Department for Work and Pensions.



Footnote: Data collected in 2020-21 and 2022-23 used a different survey methodology due to the pandemic and need to be interpreted with caution.
Footnote: Summary statistics for the Family Resources Survey data are available for 2023-24 from the Department for Work and Pensions as of late March 2025, but microdata for this survey wave were not available for independent analysis from the UK Data Archive until June 2025, thus all bespoke analyses produced by the authors for this report are only for up to 2022-23.

Figure 2: Probability of food insecurity amongst households with children versus households without children across regional divides, 2019-20 to 2022-23.

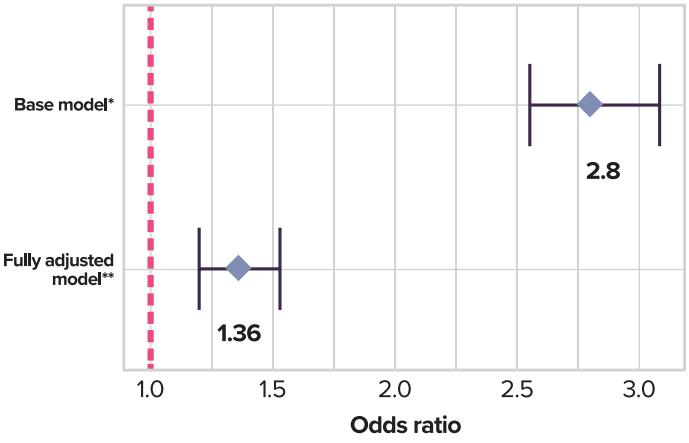


Recommendations
These findings point to key policy interventions for families with children:

1. Ensure that household income reflects the costs of having children. Specific policy recommendations include scrapping the 2-child limit and benefit cap and ensuring child benefits and the child element of Universal Credit reflect the true costs of having children.

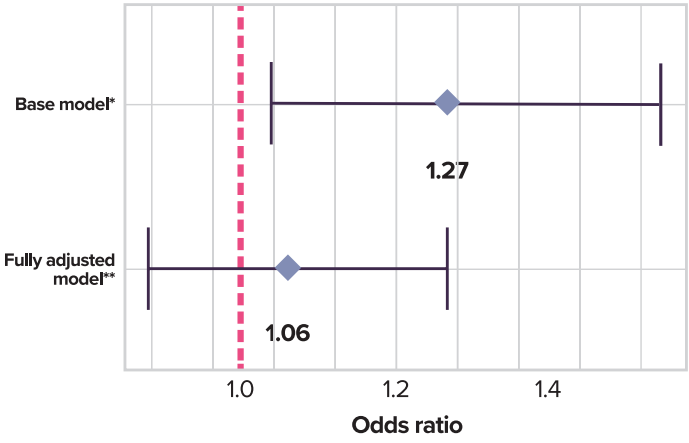
2. Expand access to affordable and appropriate housing for families with children.

Figure 3: Forest plot showing the odds of food insecurity in UK households with children compared to UK households without children before and after adding explanatory factors (fully adjusted model) and number of adults in household.



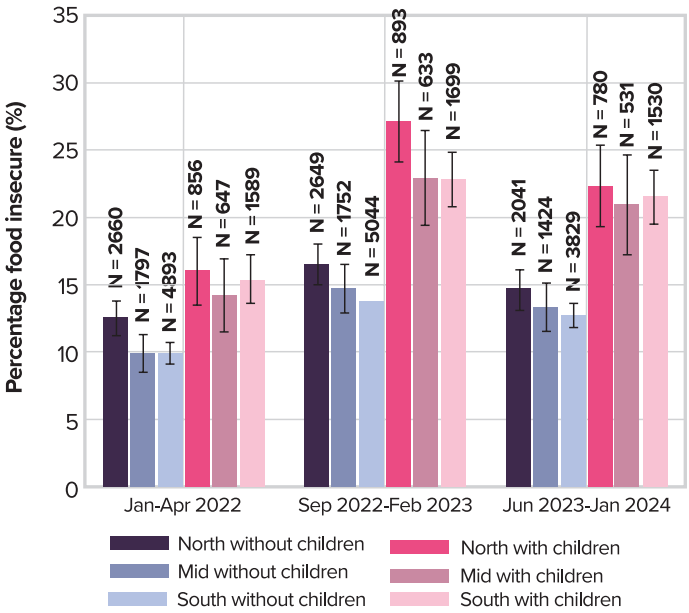
Notes: * Base Model is adjusted for confounding variables: Region, Disability, Ethnicity, Survey year ** Fully Adjusted Model is adjusted for all confounding variables, plus household income, receipt of benefits in household, employment status of household reference person and proportion of income spent on essential expenditure.

Figure 4: Forest plot showing odds of food insecurity in households with children living in the North of England compared to households with children living in the South of England before and after adding explanatory factors.



Notes: * Base Model is adjusted for confounding variables; Disability, Ethnicity, Survey year and number of adults in household. ** Fully Adjusted Model is adjusted for all confounding variables, plus household income, receipt of benefits in household and employment status of household reference person.

Figure 5: Food insecurity prevalence rates, comparing families with and without children and by regions of England (London excluded).



Footnote: Respondents were classified as food insecure if they answered "yes" to any of the following questions about their experiences in the past month: [1] Did you or anyone in your household have smaller meals than usual or skip meals because you couldn't afford or access food?[2] Have you ever been hungry but not eaten because you couldn't afford or access food?[3] Have you not eaten for a whole day because you couldn't afford or access food?

CHAPTER 2: ADDRESSING INEQUALITIES IN CHILDHOOD OBESITY

Authors: Rosalie Cattermole, Rohan Singh and David Taylor-Robinson

The burden of childhood obesity is not borne equally across the population - it disproportionately impacts poor areas in the North of England.

Childhood obesity is a major public health issue, recognised as one of the defining epidemics of modern childhood. Since 1990, the global number of children living with obesity has quadrupled, prompting the World Health Organization to classify it as a public health crisis requiring urgent action[7]. In 2019, the UK Government identified childhood obesity as "one of the biggest health challenges this country faces."[8] By 2024, data from England's National Child Measurement Programme (NCMP) showed that nearly 1 in 10 children aged 4 to 5 years were living with obesity—a figure that more than doubles by ages 10 to 11, with over 1 in 5 children affected. This sharp rise underscores the critical window for early intervention during primary school years[9].

Childhood obesity has far-reaching consequences. Children with obesity are much more likely to live with obesity into adulthood and are at a higher risk of diabetes, heart disease, cancers and premature death[10–13]. They are more likely to suffer emotional, behavioural and mental health problems in childhood and as they transition to adulthood, especially if obesity is persistent [14,15]. Children living with obesity have a reduced variability in diet and inadequate intake of fibre and protein.

These data suggest that food insecurity, in and of itself, is a direct driver of obesity in the context of food insecurity[16]. Beyond its direct impact on individual health and wellbeing, childhood obesity places unsustainable demands on the NHS and wider care systems. Tackling this issue is fundamental to the government's ambition to deliver the "healthiest generation of children ever," as outlined in the Child Health Action Plan[17]. The NHS could save £37bn, and wider society could save over £200bn if childhood obesity is halved by 2030, so it is important for policymakers to consider how to tackle childhood obesity to ensure a healthy generation of children and future adult workforce[18].

Obesity is caused by child poverty. Before the pandemic, there were marked and increasing inequalities in childhood obesity across the UK, with higher prevalence in poor areas in the North of England. Inequalities increased considerably during the pandemic, with some recovery in recent years, but an overall trend in increasing inequalities due to less recovery in disadvantaged areas (19). While the drivers of inequalities in childhood obesity are complex, child poverty is an easily modifiable root cause.

North-South divide and inequalities in childhood obesity

The Child of the North report showed regional differences in obesity prevalence[20]. At the start of the pandemic, children in the North were more likely to be living with obesity at Reception age, 10.7% compared to 9.6% of children in the rest of England.

In the latest NCMP data, there are clear regional differences in childhood obesity prevalence at Reception (Figure 6), highest in the West Midlands (10.9%), North East (10.8%) and Yorkshire and the Humber (10.7%)[9] . It was lowest in the East of England (8.4%), South East (8.6%) and South West (8.8%). These patterns are mirrored in Year 6 obesity prevalence, with the highest prevalence of childhood obesity in the North East (24.5%) compared to 19.1% in the South West.

The North-South divide in obesity at Reception age is further evident at local authority level, with the highest prevalence in Hartlepool (13.9%) compared to the lowest in Wokingham (5.7%).

Figure 6: Obesity prevalence at Reception age and Year 6 by English region (2023/24)

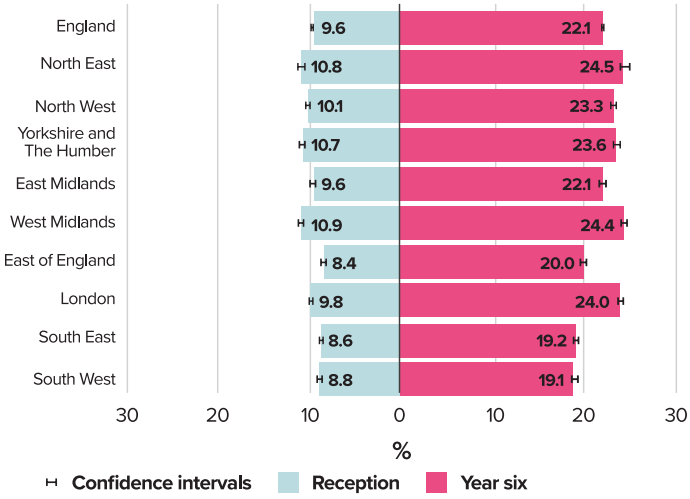
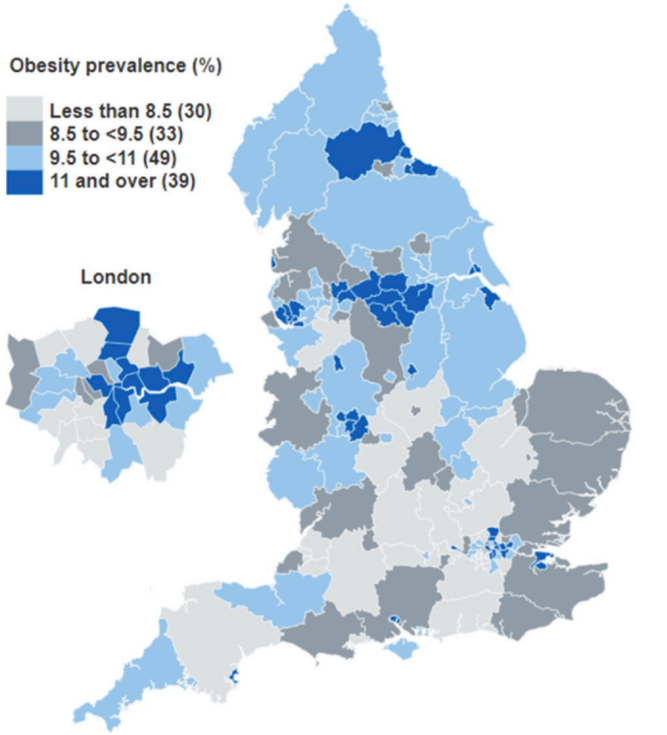


Figure 7: Obesity prevalence at Reception age by English region, percentage and (N) local authorities (2023/24)



The North–South divide in childhood obesity highlights the strong and persistent link between deprivation and health outcomes. Among children in Reception year, the prevalence of obesity is more than twice as high in the most deprived areas (12.9%) compared to the least deprived (6.0%) (Figure 8). The inequality is even more striking for severe obesity, which affects 4.1% of children in the most deprived areas—nearly four times the rate observed in the least deprived areas (1.1%).

Over the past decade, inequalities in childhood obesity at Reception age have widened significantly. Between 2013/14 and 2020/21, the overall prevalence of obesity in this age group rose from 6.0% to 7.8%. Over the

Figure 8: Obesity prevalence in Reception year by IMD decile in England in 2023/24

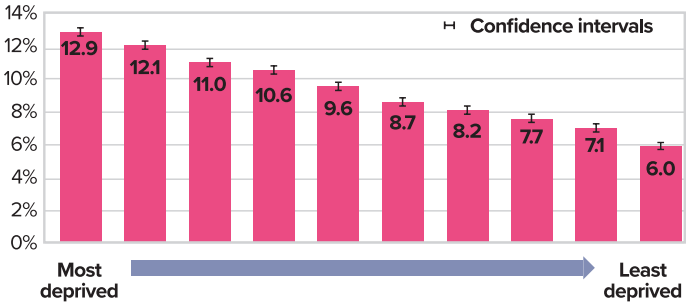
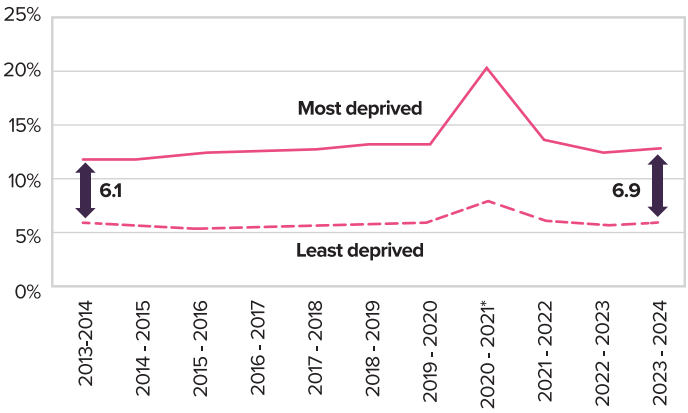


Figure 9: Obesity prevalence in Reception year by most and least deprived deciles in England



entire period, the deprivation gap also grew, from 6.1 percentage points to 6.9, reflecting a deepening divide between children in the most and least deprived areas (Figure 9).

Child poverty as a root cause of inequalities in obesity

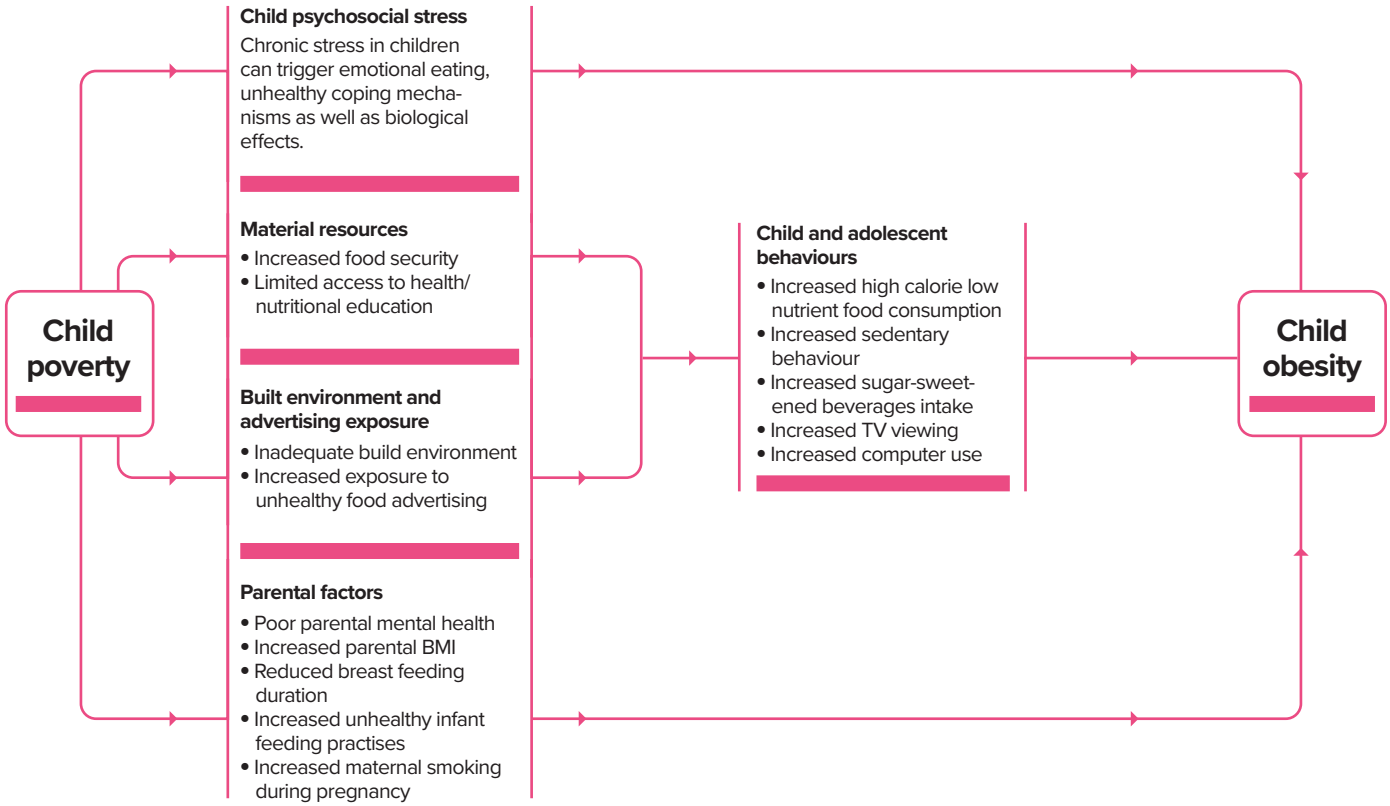
Pathways underpinning inequalities in child obesity begin early in life and accumulate over the life course[21]. Poor children confront greater exposure to risk factors that predispose to obesity compared with their economically advantaged counterparts[22,23]. Disadvantaged children are more likely to be exposed to a combination of material, psychosocial, environmental and behavioural risks for childhood obesity throughout life. [Figure 10]

The periconception and early childhood periods are critical windows in the development of health inequalities, including those related to obesity. Several perinatal risk factors—such as maternal smoking during pregnancy, pre-pregnancy overweight, low birth weight, and shorter durations of breastfeeding—are more prevalent among children from disadvantaged backgrounds[22]. Financial limitations in low-income families result in reduced access to healthy and affordable foods[23].

Moreover, financial stress and food insecurity hampers the ability of parents to provide healthy, nutritious meals for children. Deprived areas tend to have a higher concentration of fast-food outlets and outdoor advertisements for unhealthy foods. Additionally, these areas may pose more physical hazards like crime and traffic, limiting opportunities for physical activity such as walking, cycling, and play[22–24]. Cuts to spending on Sure Start children's centres, which aimed to tackle risk factors for childhood obesity in early childhood, have been associated with increased childhood obesity[25].

We know that poverty impacts family functioning and parental health and behaviour, which, in turn, affects child health. A study using data from a nationally representative sample of thousands of children born in 2000 assessed the impact on children's health of childhood adversities that cluster with poverty[26]. The study shows that over 40% of children in the UK experience continuous exposure to either poverty and/or parental mental ill health. In the North of England over half of children are exposed to these risk factors. The analysis shows that children living in poverty combined with other adversities like poor parental mental health have double the odds of obesity compared to children living with low adversity. Furthermore, almost a third of obesity on transition to adulthood could be prevented if exposure to child poverty and family adversity during childhood were reduced[26].

Figure 10: Examples of the pathways from child poverty to child obesity

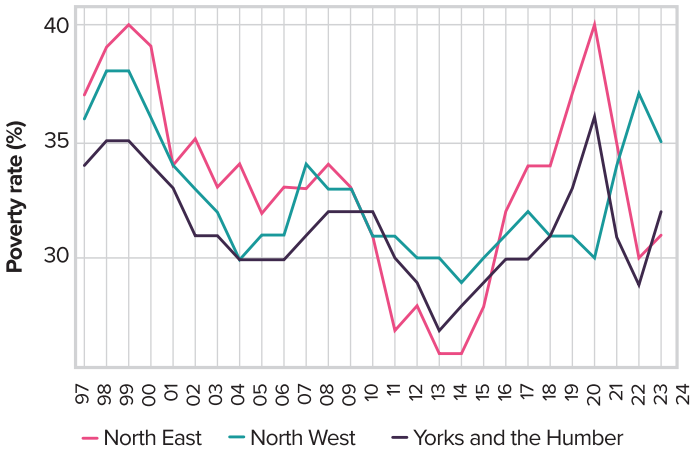


Thus, addressing the issue of childhood obesity is unlikely to be achieved through a single intervention at one part of the life-course. There is a large body of evidence showing that poverty and social deprivation are potent modifiable root causes of childhood obesity. Another study using the UK Millennium Cohort data showed that children growing in persistent poverty (around 20% of the population) were 60% more likely to live with obesity at age 14 years[27]. Our ongoing analysis shows that around a fifth of the rise in child obesity in 4-5 year olds from 2015-2022 was due to a rise in poverty[28]. The study uses a fixed-effects regression model to quantify the within-area association between child poverty and obesity prevalence, controlling for employment. The study shows a strong causal effect of rising child poverty on obesity prevalence, whereby a 1 percentage point increase in relative child poverty (4-5 years old) was associated with an additional 39 children being defined as having obesity per 100 000 children (95% CI 16 to 61).

This evidence shows that while a great deal of public expenditure currently goes on the consequences of adult obesity, a far more effective approach would be to reduce child poverty[29]. But we are currently seeing the opposite - at the same time as rising inequalities in childhood obesity, child poverty has increased to the highest levels on record. The latest data shows that 4.5 million children, over 31%, are in relative income poverty on average in the UK[30]. Rates are even higher in the northern regions [Figure 11].

Our Child of the North report showed how cuts to welfare benefits and services available to families with children have been systematically reduced, disproportionately affecting those who are most disadvantaged [20]. We need to reverse these trends if we are to have any chance of addressing the obesity epidemic.

Figure 11: Trends in child poverty rates in Northen England (after housing costs)



Recommendations

1. **Recognise and address poverty as a root cause of childhood obesity:** Policymakers should acknowledge poverty as a key determinant of child health and prioritise policies that alleviate its impact.

2. **Strengthen social welfare support:** Reverse cuts to welfare benefits—such as the two-child limit and the reduced benefit cap—to reduce financial strain on low-income families and improve child health outcomes.

3. **Expand access to nutritious food:** Improve access to affordable, healthy food in low-income communities through targeted subsidies, community food programmes, and local planning measures.

4. **Promote physical activity in deprived areas**: Invest in safe, accessible spaces for physical activity, including parks, walking and cycling infrastructure, and school-based initiatives.

5. **Introduce universal free school meals:** Provide free school meals to all children to improve nutrition, combat stigma, and support families struggling with the cost of living.

6. **Reinvest in early years services:** Restore and expand investment in early intervention programmes such as Sure Start children's centres to address early-life risk factors linked to obesity and inequality.

CHAPTER 3: PREGNANCY

Authors: Nicola Heslehurst, Zoe Bell and Evette Callender

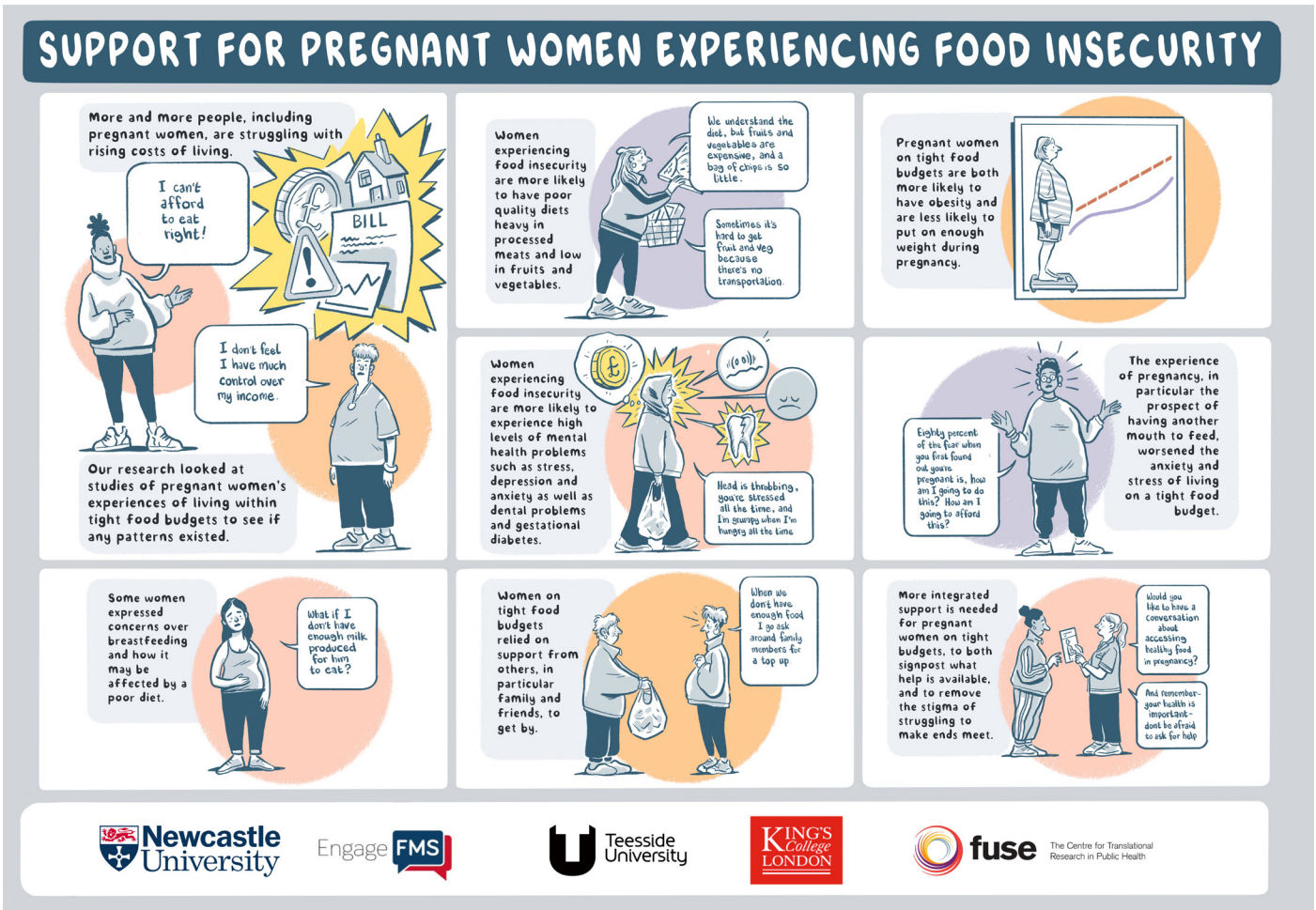
Pregnancy is a life-course period where optimal nutrition and food security is critical for the life-long health and wellbeing of women/ birthing parents and children. Pregnant women who have limited access to affordable, nutritious and healthy foods have a higher chance of developing both physical and mental health problems. New research has found that food insecurity reduced maternal diet quality[31] and significantly increased the risk of maternal obesity[31] and gestational diabetes[32]. This has long-term implications for mothers such as being more likely to develop type 2 diabetes, obesity and other non-communicable diseases later in life. In utero exposures to inadequate nutrition also influences foetal development, with lifelong health and wellbeing implications. This research also found that women who are food insecure are up to four times more likely to have poor mental health – such as stress, anxiety and depression – than those who don't struggle to afford or access food [32]. Concerningly, this evidence is largely from the USA where nutritional support has historically been broader than the UK context. Therefore, we might find that the risks are worse than we currently think within our national and regional context.

Pregnancy presents a life course risk for increasing poverty or deprivation due to a combination of social and economic factors. There are unique structural drivers related to pregnancy and motherhood including reduced income from maternity pay or job loss or unequal division of caring responsibilities[33], increased expenses related to having a baby[34], and the two-child benefit cap to universal credit[35]. Women, particularly, lone mothers are most likely to be food insecure, experiencing the highest gap between income and adequate living standards[36]. With low-income households most affected by increasing food prices[37], the rising cost-of-living threatens to further exacerbate inequalities. This is concerning for the already significant socioeconomic disparities in women's health across the life course, and intersecting inequalities. It is evident that deprivation and food insecurity during pregnancy makes it harder for women to adopt and maintain healthy behaviours[38], negatively impacting mental health and increasing chronic stress. We know that women sacrifice their food for other household members, even whilst pregnant[39,40].

These sacrifices impact women's nutritional status at a time when they have increased nutritional requirements. This is concerning as poor diet during pregnancy contributes to inequalities in pregnancy outcomes.

A report on 'Woman of the North'[41] underlined the regional differences in deprivation and obesity in pregnancy. Maternal obesity is highest in the North East at 27.1% followed by Yorkshire and Humber at 25.6%[42], whilst the North East has the highest proportion of pregnant women with preconception diabetes. Moreover, 25% of pregnant women in the

Figure 12: Infographic to translate the review findings co-designed with experts by experience during an engagement workshop in Newcastle Upon Tyne, North East England (3rd July 2024).



northern regions of England are living in the most deprived 10% of areas, with 40% living in the top 20% most deprived areas. Contrastingly, 5% of pregnant women in the South East live in the most deprived 10% of areas. This evidence collectively indicates food insecurity in pregnancy would be higher in the North.

There is an evidence gap for explicit measures of food insecurity in pregnancy in the UK. Currently, we rely on measures of household food insecurity with babies and young children. These measures estimate that a quarter of households with babies and a child under four years of age are food insecure[43]. Limited assessment and reporting means that the scale of food insecurity during pregnancy is unknown and it remains a hidden problem in the UK. Evidence of the adverse impact of food insecurity on pregnancy outcomes supports the need for its measurement and signifies a need for screening food insecurity during pregnancy as part of prenatal care. Ongoing research in the North East and West Midlands[44] is responding to this evidence gap using mixed-methods to identify the levels of food insecurity in pregnancy, how this impacts diet and pregnancy health outcomes for pregnant people and their babies, as well as the costs of this to maternity services and wider healthcare. This study will also explore women's support needs to inform future public health interventions.

Some evidence suggests that initiatives targeting food insecurity amongst pregnant women may reduce risk of gestational diabetes, highlighting the importance of interventions during pregnancy[45]. It is very important that food insecurity is considered in prenatal care and appropriate support made available. We acknowledge that while food aid is not a long-term solution, (as it does not remove the structural drivers of food insecurity), it is a short-term solution to minimise risk in pregnancy.

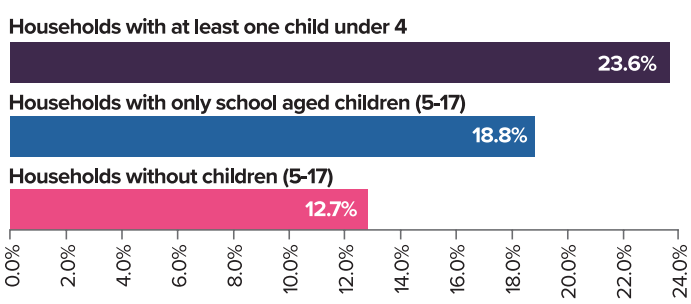
One intervention that targets pregnant women in England is Healthy Start. This scheme, which offers money for the purchase of fruit, vegetables, legumes and milk, as well as free multivitamin supplements, is detailed in section 4 below, as it also targets infants and young children under the age of 4. Of note here, however, is that there has been little research on rates of uptake amongst pregnant women or on the effectiveness of the scheme in relation to women's health during pregnancy or birth outcomes. Research on outcomes and uptake amongst families with children is reviewed below. However, given the high risk of poor nutrition and food insecurity amongst low-income pregnant women, it is critical that promotion and easy access to this scheme be provided to eligible women during pregnancy.

Recommendations

1. Prioritise data collection to know the extent (and intersecting inequalities) of food insecurity in pregnancy. Evidence highlights that inadequate access to nutritious food significantly increases the risk of gestational diabetes, maternal obesity, and poor mental health, while also compounding existing socioeconomic and regional inequalities, particularly in the North of England. Despite this, food insecurity in pregnancy remains under-recognised and under-measured in the UK.

2. Expand the Healthy Start Programme so that it is inclusive and provides adequate support to insulate against the high cost of living. While food aid alone cannot address the structural causes of poverty and deprivation, it can offer vital short-term protection against adverse pregnancy outcomes. A strengthened, accessible, and better-funded nutritional support system is essential to improve maternal and infant health and reduce health disparities across the UK. The Healthy Start Programme needs reforming, so that it is line with inflation. The eligibility criteria should be expanded so that all families who are food insecure can access it, with auto-enrolment enabled to promote uptake of the scheme.

Figure 13: Percentage of food insecurity amongst households without children, with children 5-17 years and at least one child under 4 years of age, January 2024.



Experiencing food insecurity during pregnancy, by Evette Callender, a lived experience contributor

I suffered from food insecurity with both of my pregnancies especially because I had gestational diabetes in both of them. Having gestational diabetes required me to eat a healthy but specialist diet, low in sugar and salt, with plenty of fruit and veg such as; berries, apples, pears and citrus fruits. These food items were an important part of my diet in order for me to avoid having rapid spikes in my blood sugar levels.

I was on a low income in both of my pregnancies and found meeting this [dietary] need often very challenging. One of the major factors of this has been the area that I live in because there are no fresh fruit and veg shops there, and to buy anything considered healthy. I would need to travel over a mile away by either bus or taxi (as I don't drive) in order to get to the shops that sold the more healthier foods that I needed. Foods such as fresh fruit and vegetables, Greek yogurt, nuts and seeds. I needed to eat these particular types of food as they were recommended for me by my GP and hospital consultants in order for me to maintain a healthy pregnancy. However, sometimes this wasn't always practical, because often I didn't have the money to even travel to these shops to buy these types of food, or at other times, due to the nature of my pregnancies, I was just too tired to do so, and sometimes I would even go without the food altogether, or resort to eating cheap, readily available food that I could buy in many of my local shops which were within walking distance from my house. Some of these foods included things like cakes, pasties, burgers and pizzas. Whilst this food was not an ideal nutritious alternative to the food that I was supposed to be eating during my pregnancies, I was at least satisfied that my unborn child was at least being fed.

CHAPTER 4: EARLY YEARS

Authors: Dayna Brackley, Rachel Loopstra, Rosalie Cattermole

The early years are a critical period of child development, establishing the foundations for lifelong health and wellbeing. Nutrition during infancy and early childhood shapes dietary habits, food preferences, and social behaviours[46,47]. Early weight gain can influence future health, with childhood obesity often persisting into adulthood, making early intervention crucial[48]. Food insecurity during this time is particularly harmful. It is associated with worse physical health including obesity and tooth decay, poorer cognitive development, and increased behavioural problems in young children. It also strains parental mental health, impacting the home environment in ways that can further undermine child outcomes[49].

The early years ecosystem is complex, spanning care at home by parents or caregivers, informal childcare, and formal provision through state, private, and voluntary early years settings. Challenges persist across this landscape.

Breastfeeding rates remain low, with significant regional disparities. For parents using infant formula, prices in the UK have risen significantly in recent years, raising concerns about affordability, particularly for low-income families. The Competition and Markets Authority (CMA) reported in November 2023 that the average price of infant formula had increased by 25% over the previous two years[50]. There is growing evidence that the cost of formula has led some families to adopt unsafe practices, such as skipping feeds or watering down formula to make it last longer, putting infant health at risk[51]. Additionally, the infant formula industry has been criticised for marketing practices that undermine breastfeeding, exploiting parents' anxieties and misusing science to promote products[52].

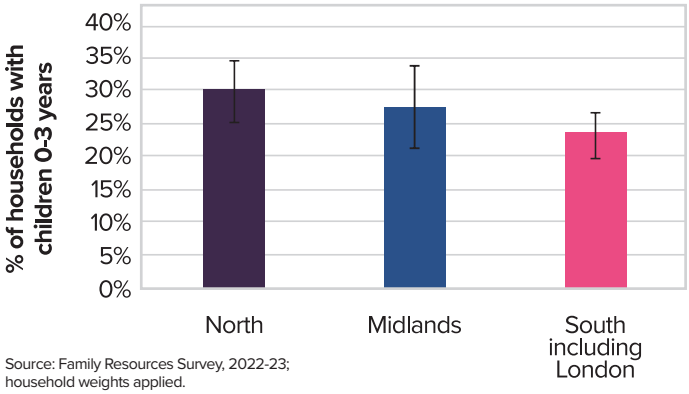
Concerns are mounting over commercial baby and toddler foods[53], with three-quarters (74%) of snacks carrying promotional front-of-pack claims containing medium or high levels of sugar[54]. These products may contribute to poor dietary habits by encouraging early preferences for sweet tastes and increasing reliance on ultra-processed foods, which are linked to higher risks of childhood obesity[54,55]. Recent research by Conway et al (2024) indicated that almost half of toddlers' diet was made up of ultra processed foods[56].

Nutrition-related data for infants and young children in the North

Data relating to early years nutrition are scarce, and even more so when we want to look at regional differences. Recently released data from the National Diet and Nutrition survey (NDNS) covering 2019 to 2023 [57] can tell us how well young children are doing for some nutritional benchmarks. Children in the early years (18 months-3 years) were drinking on average 33ml of soft drinks a day, and only 27% met the recommendation for intake of free sugars (5% or less of energy). Also very concerning was that only 22% met the recommended fibre intake. These data are only reported for the whole of England by age group so it is not possible to examine how trends in these nutritional indicators may differ between young children in the North and South. Nonetheless, several key indicators suggest that early years nutrition for infants and young children in the North may be poorer compared to those living in other parts of England. First, children in the North are less likely to be breastfed than in other parts of England. In 2023/24, the North-East of England had the lowest breastfeeding prevalence at 38.5%, while the East of England reported the highest at 59.3%, reflecting a 20.8 percentage point gap[58].

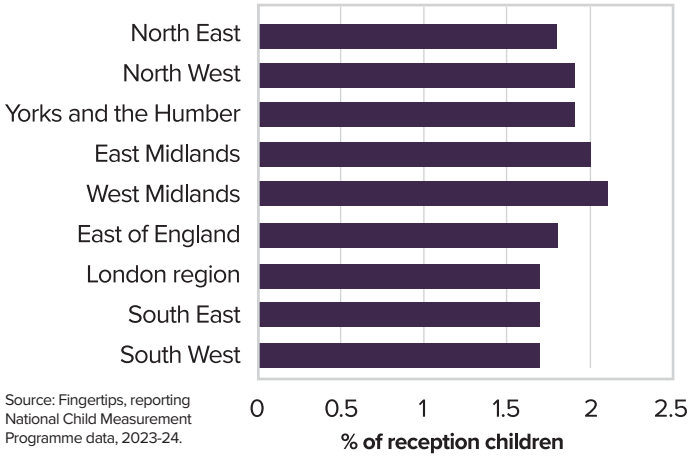
In the North, households with young children are also significantly more likely to be living in food insecure homes than their counterparts in the South. Using data from the Family Resources Survey from 2023, we see that, similar to patterns of food insecurity amongst households with any children shown earlier in this report (Section 1), levels of food insecurity also are significantly higher amongst households with young children in the North compared to households with young children in the South (Figure 14).

Figure 14: Food insecurity amongst households with children 0-3 years of age, by region (2022-23).



Source: Family Resources Survey, 2022-23; household weights applied.

Figure 15: Prevalence of short stature at Reception age (height <2nd percentile)



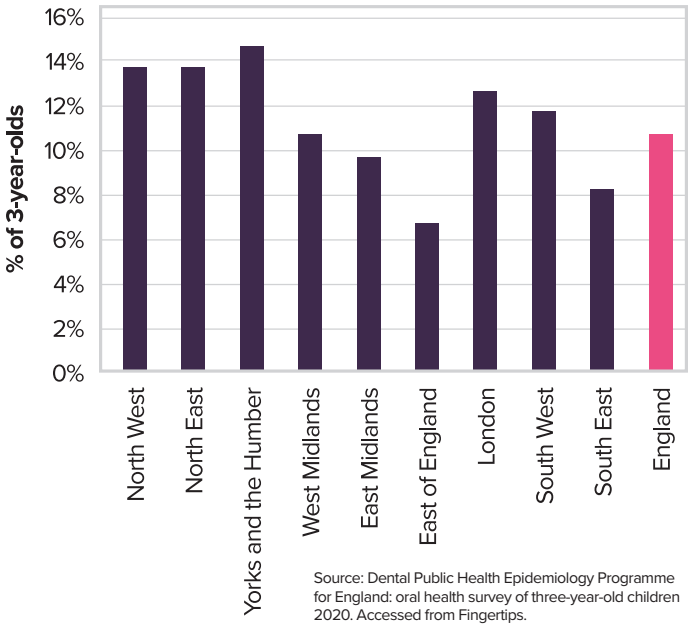
Source: Fingertips, reporting National Child Measurement Programme data, 2023-24.

Authors' own analysis. Food insecurity includes marginal food security.

Inadequate nutrition in early years may be contributing to differences in height observed when children reach Reception. Though the overall prevalence of short stature (height < 2nd percentile) is low across England, data from the National Child Measurement Programme from 2023-24 suggests there are regional differences (Figure 15), with levels of short stature in the North being generally higher than those found in the South.

Whilst food insecurity may manifest in periods of reduced food consumption and poor nutrition, research also suggests that parents do all that they can to ensure their children do not go without food. At times, this may lead to high reliance on cheaper foods that are calorie-rich and nutrient poor, increasing risk of obesity[59]. As reported in Section 2, levels of obesity and over-weight amongst Reception age children are higher amongst children in the North compared to children living in areas in the South, likely reflecting poorer diets through the early years.

Figure 16: Percentage of three-year-olds with experience of visually obvious tooth decay in England by region (2019-20).



Source: Dental Public Health Epidemiology Programme for England: oral health survey of three-year-old children 2020. Accessed from Fingertips.

Another way that poor nutrition can manifest is in poor dental health. A Local Government Association report focusing on the early years highlighted rates of visually obvious tooth decay amongst children aged 3 years in England. In 2019-20, around 14% of children living in the North West and Yorkshire and the Humber experienced tooth decay, whereas levels in the South East and East of England were around 7-8% (Figure 16).

Case Study: The role of early years settings in promoting healthy diets and tackling food poverty

Early years settings play a key role in promoting healthy eating and preventing childhood obesity. Interventions that address food provision, physical activity, and engage parents can reduce obesity risk (60). Yet policy and practice in early years settings remain under-developed compared to school-age interventions.

According to the Chief Medical Officer (2024), settings where children spend much of their day, such as schools, are vital for delivering healthy, affordable food[61]. Early years settings must be recognised as equally important. The House of Lords report Recipe for Health (2023) similarly highlights early years settings as critical in shaping healthy dietary patterns and called for an immediate review of food standards[62].
If eating breakfast, lunch and tea in a setting, children in full-time childcare can receive up to 90% of their daily energy and nutrient intake from nursery meals and snacks[63], reducing pressure on parents but placing significant responsibility on early years settings[64].

However, new insights highlight a growing challenge: according to the Nourishing Our Future report (2025), around 40% of children bring at least one meal from home, with lunchboxes often containing processed foods and commercial baby products[65]. This complicates efforts to ensure high-quality nutrition in early years settings. Evidence also suggests that areas of higher deprivation had less healthy packed lunches[66].

While school food policy has gained important attention, early years nutrition still lacks an equitable share of political focus and resources, alongside reduced support at the local level. As one council officer explained, "We used to have a safeguarding and welfare team; early years nutrition would have been something they focused on, supporting settings with that. The team doesn't exist anymore"[47].

Efforts to improve practice are also hampered by major gaps in national data. The Scientific Advisory Committee on Nutrition[67] identified a lack of robust information on feeding practices for children aged 1–5, making it difficult to monitor, assess, or guide improvements.

This complexity contributes to inconsistent implementation. Many settings continue to provide high-sugar and high-fat foods, with poor adherence to fruit, vegetable, and oily fish recommendations[47]. While 82% of settings are aware of nutrition guidelines, fewer than half use them in practice, often believing they already know what constitutes healthy eating without reference to formal guidance[68].

Despite the availability of guidance, nutrition standards in early years settings have been voluntary and inconsistently applied. Providers have had to navigate multiple overlapping frameworks—including Eat Better Start Better[69], Public Health England's Example Menus[70], the Early Years Foundation Stage[71], and Department for Education resources[72], none of which are mandatory.

However, updated nutrition guidance has been confirmed for rollout from September 2025[73]. This marks an important opportunity to set clear, consistent expectations across the sector. Yet without targeted support alongside, there is a risk that implementation will fall into the same inconsistent patterns seen previously. Delivering real change will require investment in practitioner training and funding. Without it, barriers to good food provision may continue, and those working to prioritise nutrition will remain under-resourced.

Portion size is also a challenge. Pearce and Wall (2024) found that meals for 3–4-year-olds were often too large[74]. In Rotherham, childminders described inconsistent food provision and unhelpful government guidance[75]. The Nourishing Our Future project highlights persistent gaps. Only 65% of settings included wholegrains weekly, 55% provided daily fruit and vegetables, and fewer than half met drink standards. Lunch and tea provision showed similarly low compliance, particularly for oily fish and protein[65]. Packed lunches brought from home often contained more processed foods than nursery meals[65].

This issue is compounded by a lack of training and confidence among staff. A study in Liverpool found that only 21% of nursery staff reported having adequate knowledge of nutrition for pre-school children, and over half of nurseries did not routinely assess the nutritional quality of their menus[76]. Similar findings were reported by the Early Years Alliance and London Early Years Foundation (LEYF), with practitioners citing rising food costs, funding pressures, and complex guidance as barriers to providing nutritious food[74].

Barriers to improving nutrition extend beyond complex guidance and inconsistent practice. Rising food costs and chronic underfunding force many providers to prioritise affordability over nutrition[74,77]. This challenge is particularly acute for settings operating on tight margins or relying solely on funded hours. In addition, practitioners frequently cite children's food preferences as a major obstacle to promoting healthy eating. Insights from Nourishing Our Future (2025) revealed that many children, particularly those with sensory issues, reject fruit and vegetables because the taste and texture can vary. While some practitioners seek professional advice, others rely on personal experience or work more closely with parents to encourage healthier food choices[65].

Free Early Years Meals (FEYM) offer a way to support children from low-income families, but restrictive eligibility criteria and inconsistent funding limit their impact. Children must attend a state-maintained setting, both before and after lunch to qualify, excluding many families unable to access full-day care or those in private settings or using childminders[49]. Only 8% of children in state-maintained nurseries were recorded as eligible for FEYM in 2022/23, compared to 18% of Reception-aged children eligible for Free School Meals[49]. Funding for FEYM varies widely between local authorities, with no set per-meal rate. Some providers report feeding hungry children regardless of eligibility, reflecting goodwill but also underscoring the inadequacy of current policy[77]. New analysis by Bremner & Co estimates that at the highest level, over 300,000 children under 5 who live in poverty and attend formal childcare may be missing out on FEYM due to restrictive eligibility criteria. As many as 200,000

children who receive other means-tested child poverty support are not eligible for FEYM, 84,000 are excluded because of the type of setting they attend, and 31,000 may meet the criteria but are unable to access the support potentially due to registration issues or sessional attendance (Food Foundation, 2025). With the upcoming expansion of free school meal entitlement, this will extend free early years meals to all children in state-maintained settings whose families are in receipt of Universal Credit. However, children in private or voluntary settings, or those cared for by childminders, will still not be eligible.

A comprehensive approach to early years nutrition is urgently needed. Strengthening regulation, funding, and guidance, supported by training and monitoring is essential to ensuring all children have access to healthy food.

Case study: Importance of Early Years Centres for families with young children

Community-based services such as early years Children's Centres (formerly Sure Start centres) play a role in childhood health and preventing obesity, both directly, and indirectly, and should be included as part of a multifactorial intervention strategy (Figure 17).

Cuts to local government funded child prevention programmes (since the UK recession of 2008, and throughout the last government's austerity measures of the 2010s) have disproportionately affected lower income areas and those in the North of England[25].

Spending cuts to services, such as Sure Start centres, are associated with an increase in childhood obesity. Evidence suggests a relative increase in obesity of 0.34% per year when compared to projections if Sure Start centres were not closed. This equates to over 4500 extra children living with obesity, as well as nearly 10,000 extra children living with overweight at the start of Primary school since 2010[25]. It is being made harder for children to be healthy by changing the environment they are exposed to, which is affecting the poorest children the most.

Benefits of community-based early years services such as Sure Start are likely to be multifactorial; for example, through direct effects of parenting programmes on promoting healthy lifestyle and advice on childhood obesity that parents could access. Indirect effects of the centres relate to linking to wider social determinants of health, such as support for parental mental health and income (employment/welfare support), both of which we know have a significant impact on childhood obesity. Therefore, reinvesting in community-based services, particularly in lower income areas and the north of England, will help reduce inequalities in childhood obesity.

Recent data show the number of Children's Centres available to families with young children is highly variable across England[78]. Whilst some local authorities have a relatively high density of Children's Centres, given their early years population, other areas have 9 or fewer available per 100,000 children – suggesting a centre in these areas is intended to serve a minimum of 11,100 young children. Eight local authorities in the North have a density of 9 or fewer Children's Centres available per 100,000 young children. A recent report from the Centre for Young Lives highlighted that in 2023/24, spending on Children's Centres and family hubs was less than one quarter of what is was in 2009/10[79]. From a peak of delivery of 3630 Children's Centres in 2010, 1340 centres were closed in the years to 2022.

Case study: Healthy Start

Healthy Start is one policy intervention aimed at improving the nutrition of children in the early years. Whilst its form and delivery has changed in recent years, this scheme provides a critical nutritional safety net for pregnant women and families with children under 4 years of age living in poverty – but needs to be reformed. Weekly subsidies for food and multivitamin supplements enable families to buy fruit and vegetables otherwise too expensive for tight budgets.

Healthy Start is highly valued by health professionals and recipients[80]. Research on Healthy Start suggests it allows families to protect spending on fruit and vegetables, where otherwise, these foods are unlikely to

Figure 17: Pathways of impact of local government investment on childhood obesity

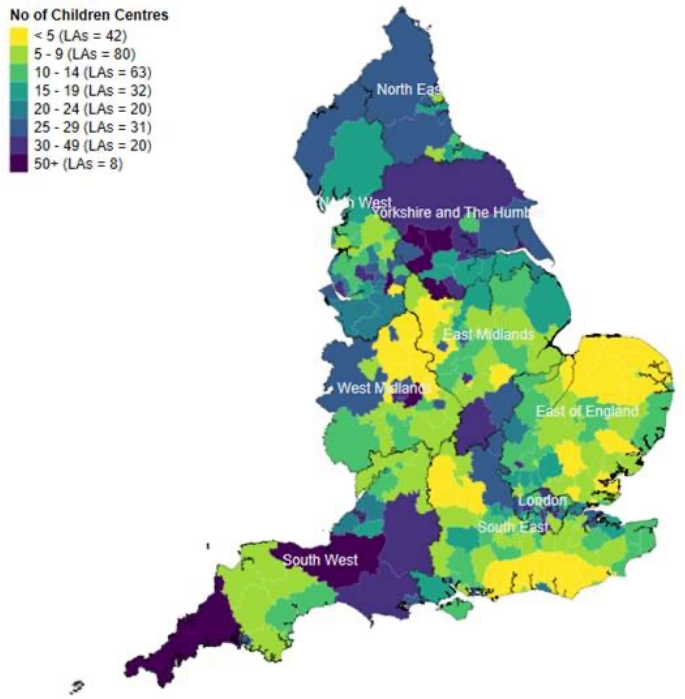
be prioritised on tight budgets and in the face of the risk of foods going to waste[81,82]. Though quantitative analyses show mixed results for the extent to which Healthy Start leads to an increase in fruit and vegetable purchasing[83–85], qualitative studies show that families highly value the ability to purchase these foods. The ability to use Healthy Start to free up funds for other foods and essentials is an important mechanism for how Healthy Start benefits families[81]. Healthy Start is also important for enabling households to purchase infant formula, which, given its high cost, may also be prioritised over fruit and vegetables.

The effectiveness of Healthy Start could be improved to better protect children in the Early Years. The scheme payments are no longer sufficient to cover the needs of its beneficiaries against the rise in food prices, hindering its effectiveness. For example, the weekly offer does not cover the cost of infant formula, which has seen prices rise significantly, outstripping average inflation. This means that the Healthy Start funds are not enough to cover the costs of healthy food. The schemes restrictive eligibility also means families experiencing poverty are falling through the gap, such that not all families experiencing food insecurity are able to access it. Research also suggests that there is a gap in provision between when children turn four years old and before they start school and are able to access nutritional support there[80]. Families who have been receiving Healthy Start feel the withdrawal of the support when their child turns four.

Uptake of Healthy Start amongst eligible beneficiaries has also been highly variable across local authorities, as shown in Figure 19. In 2022[1], the North East had one of the highest levels of uptake across its 12 local authorities, with a mean of 80.9%. The North West was amongst the lowest, at mean of 71.8%. But here, regional differences are less important than the clear disparities in uptake within regions. For example, uptake ranged from 56% in Ribble Valley to 79% in Blackpool in the North West. Some evidence suggests that families in the North West region have the highest rate of unclaimed subsidies outside of London, with over £7.8 million of Healthy Start going unclaimed[86].

Qualitative research suggests a number of barriers to Healthy Start uptake[80,87]. These include: families feeling stigma and that the scheme is not "for them", despite being eligible; varying awareness of the scheme amongst health professionals and in turn, amongst potential beneficiaries; confusion over how the scheme may affect other benefit entitlements

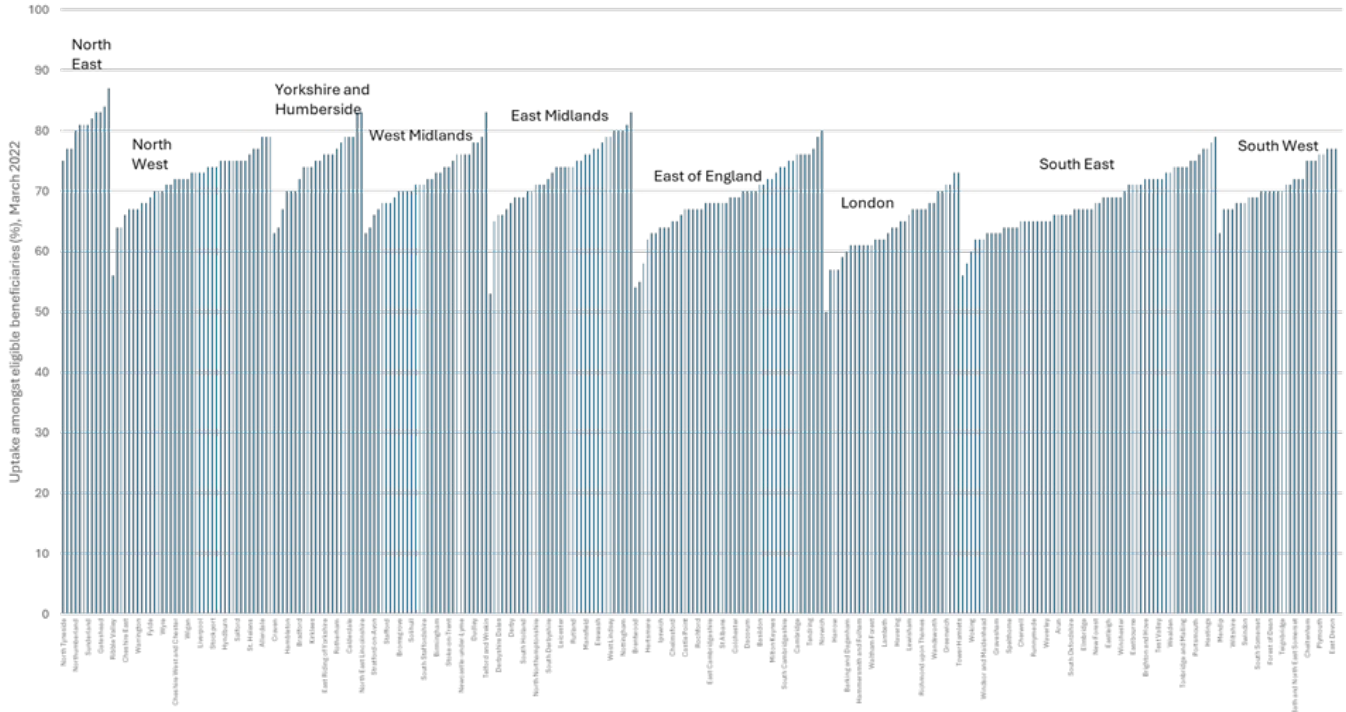
Figure 18: Children's Centre provision per 100,000 younger children in the population.



or eligibility; not being sure how to apply, or aware of the need to apply; then also barriers to completing the application. Some, if not all, of these barriers could be addressed if Healthy Start enrolment was "opt-out" rather than "opt-in", eliminating reliance on health professionals to know about the programme and promote it, the need for potential beneficiaries to know if they meet eligibility requirements and make an application, and the need for support for families to apply.

Whilst uptake levels do not meet targets, the scheme's restrictive eligibility criteria also mean families experiencing poverty but not eligible to receive Healthy Start are falling through the gap.

Figure 19: Healthy start uptake across English local authorities by region (March 2022).



Source: Author's analysis of March 2022 Healthy Start uptake data available from NHS England.

Recommendations

1. **Boost the value of Healthy Start:** to enable families to meet the real costs of purchasing fruit and vegetables, formula and dairy.

2. **Extend Healthy Start to all children pre-Reception age:** addressing the gap in provision between when children turn 4 and attend school.

3. **Auto-enrol eligible families onto Healthy Start:** implement opt-out rather than opt-in if on qualifying benefits and meet the income thresholds.

4. **Expand eligibility to Healthy Start to all families with young children in receipt of income-replacement benefits and child benefit:** doing away with restrictive income thresholds that complicate eligibility and stigmatise receipt.

5. **Invest in Children's Centres:** places that are essential for promoting children's health and nutrition and Healthy Start enrolment. Ensure there is access for families in all regions in the North, but especially those with high levels of deprivation.

6. **Increase access to Free Early Years Meals:** Remove restrictions based on setting type, before and after lunch, and introduce automatic enrolment for eligible children. Free meals should be extended to all children attending funded hours.

7. **Secure dedicated food funding for early years:** Create a specific funding stream for meals in early years settings, or build food costs into the funded hours rate. Following the school food funding model would help providers offer nutritious, culturally appropriate meals without charging families.

8. **Ensure fair rollout of new nutrition guidance:** With updated early years nutrition guidance due from September 2025, practical support is essential. Funding and staff training must accompany the rollout to ensure consistent, equitable application. A clear plan should be developed to move towards mandatory standards.

9. **Appoint an existing or dedicated Minister to have Early Years Food and Health as part of their role:** Establish a dedicated ministerial lead to coordinate policy across DfE, DHSC, and DEFRA, mirroring school food leadership. A national strategy, supported by a cross-sector group, should drive improvements in early years nutrition, health, and equity.

CHAPTER 5: PRIMARY SCHOOL YEARS

Authors: Rob Oxley and Maria Bryant

Postcode and senior leadership lotteries

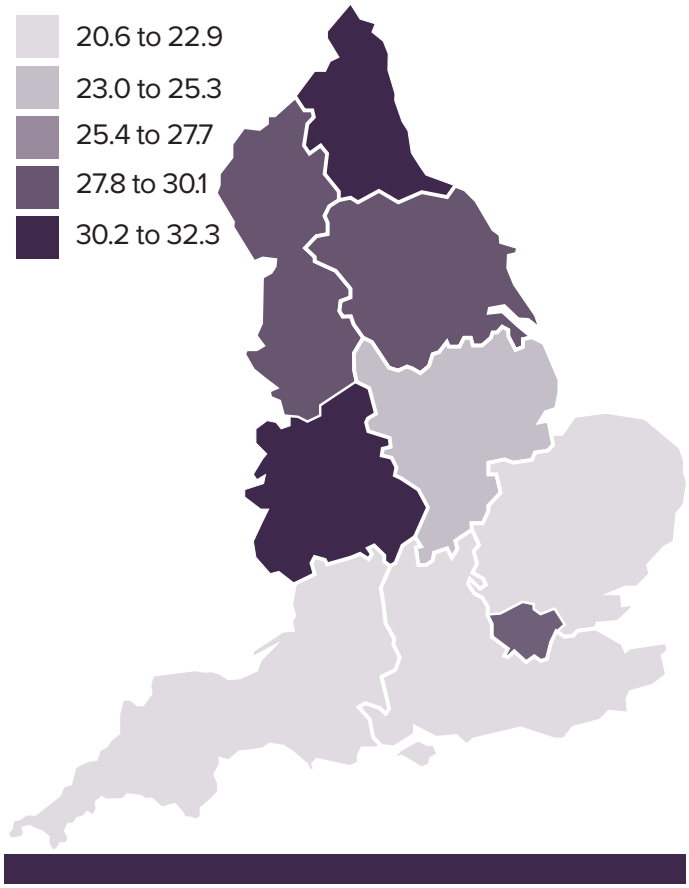
School meals offer a critical tool for simultaneously addressing food insecurity, ill-health among children and the damage of the food system on the planet. However, their potential is under-realised and there are both 'postcode' and 'leadership' lotteries which mean that, while some children are getting the most benefit, this is not universally the case across the country. Universal provision of free school meals in London is making a difference to thousands of children's lives, while the rest of the country goes without. Similarly, commitments to register all families who are entitled to receive free school meals through an auto-enrolment process are largely dictated by local-level decision making[88]. In this section, we highlight the policy failures in school food, showcasing where children in the North are generally fairing worse. We also provide examples of what can make a difference to provide equitable access to good school food, with case studies illustrating positive impact to children, families and schools.

So much under-realised potential: The centralised compulsory school system in England is well-placed to influence health, particularly for children who live in areas with the highest levels of deprivation. School food is served to 3.1 million children every day and school food catering is the largest area of public sector food spend, accounting for approximately £700m, 29% of the annual £2.4bn UK public sector food and catering spend. For those in greatest need, school food may be the only opportunity for children and young people to have a nutritious meal. However, the devolution of school food policy to local authorities has created an unequal and fragmented system, with wealthier areas like London having greater capacity to influence outcomes, such as providing free school meals[89].

Free School Meals (FSM) as an important, but under-harnessed intervention: At the time of writing, families with a household income of <£7,400 (before benefits) are eligible for FSM, which can directly improve diet quality and learning in children whose diets are impacted by deprivation[90]. Indirectly, FSM positively impacts family spending, bringing financial, psychosocial and wider productivity benefits. Through increased meal uptake, FSM could leverage wider food systems change, driving improvements in food access, utilisation and provisioning. However, multiple, fragmented issues along the FSM policy-implementation pathway mean FSM fails to deliver its potential from early years through to school completion. Variations in national and local government budgets, school food prioritisation, procurement, menus, quality and uptake, coupled with knowledge gaps, limit our ability to optimise FSM policy to reduce health inequalities and achieve long-term school food system transformation.

The latest government figures indicate that 25.7% of children in England are registered for means-tested free school meals[91]. Similar to childhood obesity rates and aligned with child poverty, rates are consistently higher in the North, with 32.3% of children in the North East eligible for free school meals (20.6% in the South East). This is incredible given the current very strict FSM entitlement criterion of <£7,400[92] and will be somewhat improved when new criteria, linked to receipt of Universal Credit, come into force in September 2026. Estimates from the Child Poverty Action Group suggest that England has more children in poverty who are ineligible for free school meals compared to Scotland, Wales and Northern Ireland, estimated at approximately 900,000 children who experience food insecurity but do not meet the restrictive eligibility criteria [93]. This aligns with evidence suggesting that many children of working parents are not able to qualify for free school meals despite reporting

Figure 20: Free School Meal eligibility rates across England (2024/25).



hunger[94]. Given what we know about rates of deprivation in children living in the North compared to the South of England, it is probable that this translates to more children in the North falling through this gap. As such, the new eligibility criteria within the Labour party autumn budget (2025) should go a long way to fill the gap and provide much needed support to families with food insecurity.

Universal provision of free school meals has been deemed one way to ensure that all children benefit from a daily hot meal. Universal infant FSM access demonstrates what can be achieved without means-testing, but wider application comes up against financial constraints from Treasury orthodoxy. However, estimates from Impact on Urban Health indicate an overall cost-saving in the long-term, where for every £1 invested, estimates suggest that universal free school meals generate £1.71 in the core benefits, through increased lifetime earnings and contributions, increased savings for families and NHS savings related to a reduction of obesity[95]. Importantly, this is a potentially popular policy, with the National Education Union's No Child Left Behind campaign finding that 88% of parents and carers outside London support extending free school meals to all primary school children in England[96].

Unfortunately, devolved responsibility results in unequal free school meal distribution across the country. Areas outside of London have faced barriers in delivering universally free school meals, including a recent commitment in York that has been well-received but has struggled to obtain sufficient and sustainable investment. However, evidence from other countries in the UK provides an indication of what might be possible, with Scotland committed to universal provision for children in years 1-5 and Wales for all primary school children, as part of its 2021

commitment to tackle child poverty. Further afield, other countries demonstrate what might be possible including Sweden, India, Brazil, Estonia and Finland, where all children receive a daily free school meal.

Auto-enrolment of FSM as one potential solution: To receive free school meals and to ensure that schools receive the associated funding, parents/carers are required to submit an application. However, for many reasons, including stigma, shame, language and access barriers, data indicate that ~11% (>220,000 families) do not and thus, thousands of children do not receive the meals to which they are entitled[97]. In addition, schools are missing out on the associated pupil premium funding, worth £1,480 per eligible primary-aged child and £1,050 per eligible secondary pupil. Notably, pupil premium funding is not restricted to those in receipt of free school meals, and therefore any additional free school meal-related funding can benefit all children in schools that receive it, through improved teaching, academic support and extracurricular activities. However, it is worth highlighting that the revised eligibility criteria for FSM due to start in September 2026 will continue to use the current criteria to calculate pupil premium. In other words, schools will no longer receive funding for all children on FSM with the new criteria. Instead, funding will only be provided to children whose families earn less than £7,400 per year, after benefits. How this works in practice at a local authority level is yet to be determined, but it is likely to present processing challenges.

Over recent years, local authorities have explored new methods to identify and register additional children that require support, with one such method being 'auto-enrolment'. Auto-enrolment is a term to describe the processes by which local authorities identify eligible pupils using benefit-related datasets. Once identified, eligible families are sent letters to inform them that the local authority will apply on their behalf, but that they can withdraw if they do not wish this to happen. Sheffield Council were one of the first local authorities to implement auto-enrolment (referred to as 'auto-award') in 2016. Between 2016 and 2021, this process led to an additional 6,403 free school meal registrations and £3,818,583 in additional pupil premium. These findings are not exclusive to Sheffield, though there are differences between northern and southern authorities.

The FixourFood in Schools programme (fixourfood.org) has worked in partnership with over 100 local authorities since 2023 to help them set up similar auto-enrolment processes for FSM[98]. Preliminary, unofficial data suggest that this is having a substantial impact, but particularly in more northern areas, where a higher proportion of children are being identified compared to more southern areas. For example, the average number of additional children identified and registered to FSM from eleven northern local authorities is 951 per area. In seven areas in the South, the average number is 456 children. Further, when these data are considered relative to population size, there is a 1.8-fold increase in registrations in the North compared to the South, where 'the South' excludes the North East, North West and Yorkshire and the Humber. If we also exclude Birmingham from the South, there is a 2.1-fold difference in registrations. While this is a great demonstration of impact, it also highlights that under-registration rates are highest in the North. More children missed out on the free school meal that they are entitled to in the North.

Given the potential impact of free school meal auto-enrolment, many local authorities have begun implementing auto-enrolment processes within their respective areas. In theory, this process should be relatively straightforward - stakeholders access benefit data, identify pupils, consult parents and register children. However, several local authority representatives report that this is not the case, and they in fact experience multiple barriers with varying degrees of difficulty. Generally, implementation barriers relate to capacity and resource constraints, which are described by multiple stakeholders. However, it is the ability to overcome these barriers that differs and, importantly, differs based on perceptions, interest and financial resources rather than the need for support. Our data highlight differences between implementation barriers in the North compared to the South. Importantly, the Greater London Authority (GLA) has actively and financially supported all Boroughs to set up auto-enrolment processes. This is also reflected in the qualitative data being gathered by the FixourFood programme, where northern authorities have cited financial concerns as considerable barriers to implementation. This is often caused by the delay in FSM award and receipt of central funding, such that local authorities are asked to pay for additional meals in the funding gap. FixourFood data has demonstrated that this is not equally experienced across areas and may impact on the decision as to whether local authorities decide to set up auto-enrolment of FSM. Consequently, in the absence of regional authority support, implementation hinged on the potential number of students who may have qualified, rather than the number who did.

"If we do that kind of trial run with the data and it comes back and says, 'Oh, yeah, we think there's 2,000 children here who are eligible' then we would have to rethink because we couldn't afford to support and offset that kind of gap that that would leave in the school budgets." (North West local authority).

Given the disparity in income-related deprivation between families living in northern and southern local authorities[99], the number of children entitled to free school meals that could be identified through auto-enrolment is likely to be higher in the North. Consequently, local authority perceptions of what is feasible may change, based on the anticipated financial implications of identifying many pupils, which may be more likely in deprived regions of the North.

Our data contained repeated references to themes such as leadership support and implementation sustainability from northern regions. Although these themes are certainly not unique to the North, a greater focus on sustainability may reveal differences between northern and southern regions, and how those in the North are required to employ longer-term strategies in the absence of wider financial support.

Recommendations

1. Reconsider the limitation of pupil premium to only those whose income is less than £7,400 per year (before benefits), by linking pupil premium to all children on FSM (including those newly entitled through Universal Credit). FSM-linked school funding offers a crucial lifeline to schools to provide enhanced teaching and support to children in greatest need. Funding for this could come from the reduction in costs following the removal of transitional protection.

2. Centralise auto-enrolment of free school meals so that all areas, schools and children can benefit. Financial and bureaucratic barriers are preventing many areas outside of London from setting up auto-enrolment. Northern areas are impacted most – with the highest number of entitled children.

3. Create a level playing field by investing in school food so that all areas can benefit – not just those in London. London Boroughs benefit from local policy decisions, support from the GLA and business investment that is not distributed to other areas.

4. Extend Universal Infant FSM to all children in primary schools, so that children outside of London can also benefit.

CHAPTER 6:
SECONDARY SCHOOL YEARS

Authors: **Suzanne Spence and Jen Bradley**

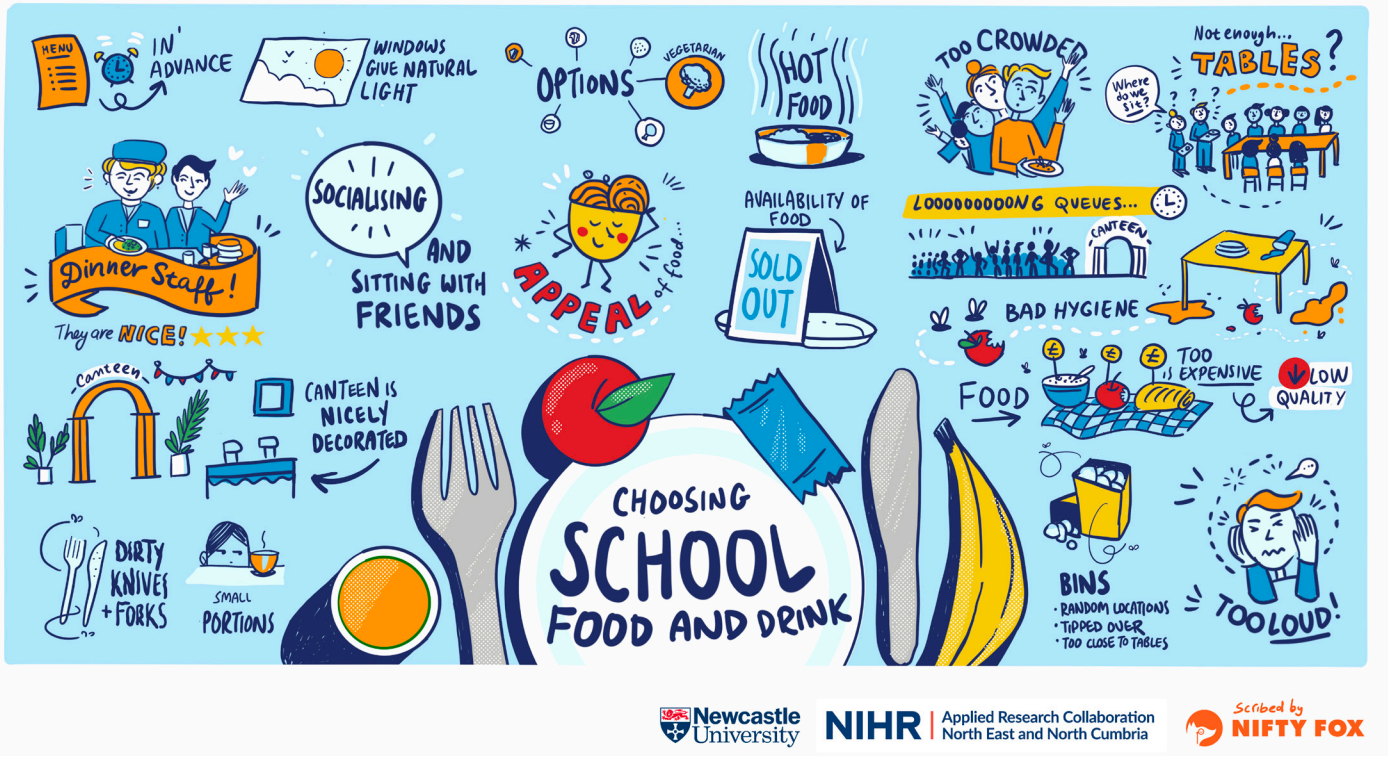
Adolescence is a period of nutritional vulnerability, with many failing to meet dietary recommendations. According to UK National Diet and Nutrition Survey figures, intakes of free sugars among 11-18 year olds are 12% of total energy, more than double the recommended 5%. Fibre intakes are 16g/day for 11-18 year olds, below the recommended 25g, and only 12% of 11-18 year olds achieve five portions of fruit and vegetables per day[100]. Intakes of free sugars are higher in financially deprived households, and intakes of fibre and fruit and vegetables are lower compared to households living comfortably[100]. Adolescents' poor dietary intake is also reflected in their consumption of ultra-processed foods (UPFs). Some examples of UPFs are soft drinks, confectionery, breakfast cereals, reconstituted meat products, packaged breads, and ready meals. These are drinks or foods high in sugars, fat, salt, containing ingredients not used in home cooking, for example, colourings and preservatives (101). Findings from a representative sample of UK adolescents found percentage Total Energy Intakes (%TEI) from UPFs was higher for adolescents of white ethnicity, living in more deprived families and in Northern England compared with adolescents across England (Northern England, 67.4%; England Central/Midlands, 66.8%; South England (including London), 64.1%)[101].

A key study which has been instrumental in understanding dietary intakes in 11-12 year olds and has contributed to school food policy is the Northumberland Middle Schools study[102]. This is a cross-sectional dietary study led by Newcastle University, which has collected dietary data from schools in several areas of Northumberland every ten years, starting in 1980 and the latest collection being in 2022[103,104]. The latter study explored the impact of changes to UK school food and nutrient based standards on the dietary intakes and diet quality of 11-12 year olds, comparing data from 2000, 2010 and 2022. The findings suggested that although there are some improvements to dietary intakes, these still fail to meet recommendations. Likewise, diet quality remains poor for this age group despite key changes to school food policy during this period. This highlights that whilst policy is important, other aspects of school food require consideration to positively impact dietary intakes. These include things such as food availability, listening to and engaging a wide range of stakeholders to consider how to improve school food.

One group of stakeholders is pupils themselves. A recent unpublished PhD at Newcastle University gathered secondary pupils' opinions of school food and highlighted positive aspects, as well as areas for potential improvement (Figure 21). Pupils reported enjoying sitting with their friends at lunchtime and having good rapport with dinner staff; however, there were issues with food availability, menu information and cost of items[105]. Another qualitative study with secondary pupils in northern England found similar themes with the cost of school food and suggested that peer group influences may be a factor in driving unhealthy food choices in school[106].

Evidence suggests that the foods and drinks pupils choose at school do not reflect the food standards put in place by the government to ensure pupils have access to healthy food[107–109]. There are issues around compliance with standards, and availability of foods. However, there are potential opportunities to improve pupils' food intakes at school. Nudge strategies, including changing the position or display of items and improving the presentation of foods, have shown promising results in school canteens. A pilot intervention in North East schools involved re-positioning water and fruit to increase accessibility, and sweet baked goods and sugar sweetened beverages (SSBs) to decrease accessibility. Increases in the purchase of fruit pots were observed and a decrease in the purchase of SSBs and sweet baked goods[109]. A similar nudge strategy in schools in Yorkshire improved the uptake of plant-based food choices,

Figure 21: **The views of secondary school pupils on the school food environment**



Newcastle University | NIHR | Applied Research Collaboration North East and North Cumbria | Scribed by NIFTY FOX

reporting increases in the purchase of fruit pots and salad[110]. Although both nudge interventions reported positive findings, these effects were not sustained long term.

Evidence suggests that pupils' dietary intakes in school and beyond require improvements. School offers an opportunity to improve dietary intakes across all levels of deprivation, by providing pupils with a healthy, nutritious school lunch. Interventions in the school canteen setting have shown promising results, yet the variation in school environments does not allow the 'one size fits all' approach.

Tiffany Yang - Born in Bradford case study – Adolescents experience Food insecurity during adolescence: A Bradford example

Bradford is the 5th largest local authority in the North of England and was named the UK's City of Culture 2025[111]. It is a dynamic and multicultural city with a third of the population reported as Asian or Asian British and has the youngest population in England with 28% of the population under 20 years old and over a fifth under 16 years old, compared with England's 23% under 20 years old and 18% under 16 years old[112]. It is also one of the most deprived, ranking 13th most deprived local authority in England out of 317, with over a third of its inhabitants living within the 10% most deprived neighbourhoods[112].

Bradford hosts Born in Bradford (BiB), an internationally recognised research programme tracking the lives of over 18,000 families which aims to find out what keeps families healthy and happy (https://borninbradford.nhs.uk/). Their most recent project BiB 'Age of Wonder' is capturing the experiences of over 20,000 young people as they transition from adolescence into young adulthood[113].

Understanding the prevalence of food insecurity among adolescents is important, as it is a critical period for physical and cognitive development, with studies suggesting that experiences of food insecurity are linked to poorer physical and mental health including worse nutrition, dental health, and school performance[114–116]. However, food insecurity data during adolescence is limited, particularly in the UK. Surveys on household food insecurity such as the commonly used United States Department of Agriculture module, do not distinguish those under 18 years of age into further age categories. Parents often shield children from food insecurity, and most parental reporting is focused on younger children rather than adolescents[117]. Among 15 year-olds taking part in the international Programme for International Student Assessment (Pisa) survey in 2022, 11% of pupils in the UK reported not eating in the previous 30 days due to not enough money to buy food, compared to 8% of pupils across the Organisation for Economic Co-operation and Development (OECD) countries[118]. A small survey of 83 1 to 17 year old college students in the North of England found that 33% were characterised by having low or very low food security[119].

In the BiB Age of Wonder study, 13,498 pupils in Years 8-10 during the 2023-2024 school year completed modules examining their physical, social, and mental wellbeing. Of the 8,809 who responded to questions about food insecurity, including concerns about not having enough to eat or being able to afford food, as well as experiencing hunger or restricting food intake, 18.4% of adolescents reported food insecurity. There were differences by ethnicity, with 20.3% of White pupils and 16.2% Asian/Asian British students reporting any food insecurity.

Keira Forrestee – young person lived experience quotes

"There's definitely a lot more takeaways than there is like shops to buy other things from"

"So when we first moved into our flat, we had literally nothing. We had like a kettle and like a spoon or something. And the clothes we literally had on us, we didn't have anything else. We had to work our way from food banks and like... trying to get things for free ... now ... we are able to do things... we don't have to live on food banks anymore. But even the food we was getting off the food banks, it wasn't really....there wasn't much there to make meals of. Obviously it was helpful but.....it wasn't really enough"

"It had quite a negative impact because we were always stressing about what we were going to do with the next bit of money we had coming in, whether we were going to buy food or whether we was going to have a nice warm house all month"

"Although something seem basic, such as food and warmth, some people don't have full access to those."

"You don't know when the next meal's going to come. Your body is then saving the little bits of food they are getting that then makes you put on weight in the long run"

Among those receiving free school meals (FSM), 24.3% reported being food insecure. However, many (16.1%) adolescents who were not entitled to FSM experienced food insecurity. These rates are much higher than when measured when the adolescents were 1 year old in 2014, when 9% of families were food insecure, (similar to the 10.1% reported as food insecure in the UK in 2014[120]. New eligibility criteria to be introduced in September 2026 are likely to offer a good solution for many young people and this Age of Wonder study will continue to gather data to provide more certainty around this.

In existing data, higher rates of food insecurity were reported by White British mothers, with 11% experiencing food insecurity, compared to 7% of Pakistani-origin mothers[121]. Qualitative research indicated that ethnic differences were related to resilience, where food insecurity in mothers of South Asian origin may have been masked by greater family and community support. It appears that this resilience is less apparent in the most recent data.

Adolescents from Age of Wonder experiencing food insecurity also reported poorer diets than those who were food secure. They were less likely to eat breakfast every or most days (59.4% vs 70.9%), less likely to consume at least two portions of fruit (54.1% vs 65.7%) or vegetables (55.5% vs 64.7%) daily, and more likely to eat takeaways every day or most days (12.1% vs 8.8%). Notably, the proportion of food insecure adolescents who reported never eating breakfast was nearly double those of food secure pupils (15.7% vs 8.9%). In work conducted in Yorkshire by FixourFood, that explored whether the FSM allowance was sufficient to purchase a healthy sustainable, tasty food[122], young people told stories of how the allowance could not be used in the same way of others not on FSM. Importantly, this research learnt that, in many schools, young people were not permitted to use their FSM during break times. This is particularly important for those who have not had breakfast. They also shared stories of losing money if they could not spend it each day (for example, if they attended a lunch club) and of being limited to buying meal deals, often with no fruit, but including a bottled drink. These lessons are important in the revisions to the School Food Standards, also announced in June 2025.

Recommendations

1. Conduct a review of the quality, availability and affordability of secondary school food and drink across the whole school day.
2. Revised school food standards need to consider how FSM are used in secondary schools. Remove barriers that mean young people cannot use their funding in the same way as those without FSM. Reconsider meal deals, (which are often the meal that those on FSM are limited to buy) so that they include fruits and vegetables and do not include a plastic bottled drink. This revision is a great opportunity to make improvements to both population and planetary health.
3. Ensure that free water fountains are available in all schools. These must be clean and accessible.
4. Make school meals universally free to all children and young people in schools up to age 19 years.

"Having to go to a food bank. ... It's quite embarrassing of the thing of well, we can't afford basic things, even though everyone should be able to, and even though everyone in that food bank is in the same position, it's still the embarrassment of, ... shouldn't be the case for anyone like you should be able to walk into a food bank and go. Well, 'I kinda need this' without the thing of being judged or feeling like you're being judged because you probably aren't. But it's the fear of being judged for not supplying the basics."

"I was one of the kids on free school meals, ...my friend in high school wasn't and she wasn't eligible for them and she really struggled to bring in packed lunches everyday ..... pack lunches in the long term would have been cheaper than paying for school meals every day. But she's still really struggled..... She was still hungry at the end of it because there weren't enough there"

"If you're not having that food, you're going to struggle to get through the day. I definitely think free school meal allowance should be raised. [Our] prices should be lowered and I think everyone should be eligible to have that free school meal regardless of how much income they have at home"

CHAPTER 7: ENVIRONMENTS

Authors: Mark Green, Claire O'Malley, Andrea Burrows, Helen Moore, Amelia A Lake, Emma Boyland

Fast food outlets

Evidence suggests that the concentration of fast food outlets and takeaways in neighbourhoods can promote obesity in children and adults [123,124]. Data from the Access to Healthy Assets and Hazards resource[125,126], highlights how communities in the North of England are more exposed to fast food outlets (Table 1). 69.9% of people in the North lived within 1 km of their nearest fast food outlet, with each individual an average of 676m away. This figure was 7.4% higher than in the South of England (62.5%) – although this difference rises to 15.7% higher if we exclude London, which has become a saturated urban area (93.1%), distorting patterns.

Comparing data from 2016 to 2024, it was evident that accessibility to fast food outlets has increased over time. An increasing share of the population now live closer to fast food outlets. These changes have been more pronounced in northern regions than compared to the South. People in the North saw a relative increase in the share of the population within 1 km of their nearest fast food outlet by 84% (1.84; from 38.1% to 69.9%). This was largest in the North East where this figure more than doubled over the period (2.07). In contrast, southern regions saw their relative change increase by less than in the North (60% relative increase). These patterns reflect national level trends over the period, with 29.6% more fast food outlets over the period[127].

Accessibility to fast food outlets is also socially patterned (128,129). Figure 22 demonstrates that there is an increasing share of people living within 1 km of their nearest fast food outlet with increasing levels of neighbourhood socioeconomic deprivation. There are twice as many people living in the most deprived 10% of areas in England than those in the least deprived 10% of areas (86.7% vs 42.1% respectively). These social inequalities also play out across the North-South divide as well. The values for regions in the North are always worse than compared to the South, no matter the level of deprivation (i.e., people in the North have greater exposure and access to fast food outlets independent of neighbourhood deprivation). There is also greater inequality within the North compared to the South (i.e., the difference between the most and least deciles is 46.9% and 41.9% respectively). These patterns suggest that living in the North is a powerful determinant beyond just deprivation alone.

How we access unhealthy food is changing. The rise of delivery only kitchens, known as Dark Kitchens, are another element of the food environment that requires not only local action but national steer[130]. However, there is little data available to guide decision-making and represents a key evidence gap[131].

Community food organisations/pantries

Community food organisations (CFO) are an innovative and alternative food relief model to food banks, that seek to tackle both food insecurity and food waste simultaneously. CFOs utilise surplus from mainstream food retailers to trade items in a conventional supermarket format but at greatly reduced prices[132]. The unique combination of lower costs and a socially desirable customer experience (from a retail rather than charitable environment) shows promise in meeting user needs for an affordable and dignified food procurement experience[133,134].

A recent systematic review found that defining social supermarkets (SSMs), a type of CFO, can be challenging due to the diversity in how they are structured, operated, and embedded within local contexts[135]. While they share common goals, such as reducing food waste and improving food access, their models vary widely in terms of eligibility criteria, pricing strategies, sourcing methods, and additional services offered. For example, some CFOs operate as membership-based organisations targeting specific vulnerable populations, while others are open to the general public with minimal restrictions. The extent of social support provided, such as employment training, guidance with benefit claims, or community-building activities, also differs significantly between CFOs. This variation reflects the adaptability of the model to local needs and resources, but it also makes it difficult to establish a universal definition for evaluation purposes. Additionally, methods of acquiring surplus food

Table 1: Accessibility to fast food outlets by region (source: Access to Healthy Assets and Hazards).

Region	Percentage of population within 1km of nearest fast food outlet (2024)	Relative change since 2016
North East	66.4	2.07
North West	73.7	1.77
Yorkshire and The Humber	66.5	1.83
East Midlands	54.7	1.68
West Midlands	62.6	1.78
East of England	50.1	1.61
London	93.1	1.09
South East	53.6	1.52
South West	50.4	1.47
North	69.9	1.84
South	62.5	1.38
South excluding London	54.2	1.60

Note: North was defined as North East, North West and Yorkshire and the Humber. South was defined as all other regions.

Figure 22: Percentage of people living within 1 km of their nearest fast food outlet by 2019 index of multiple deprivation (source: Access to Healthy Assets and Hazards, 2024)

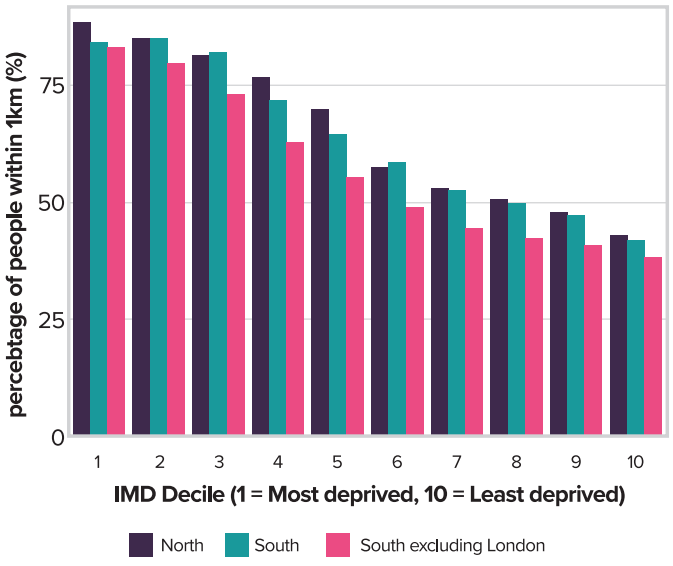
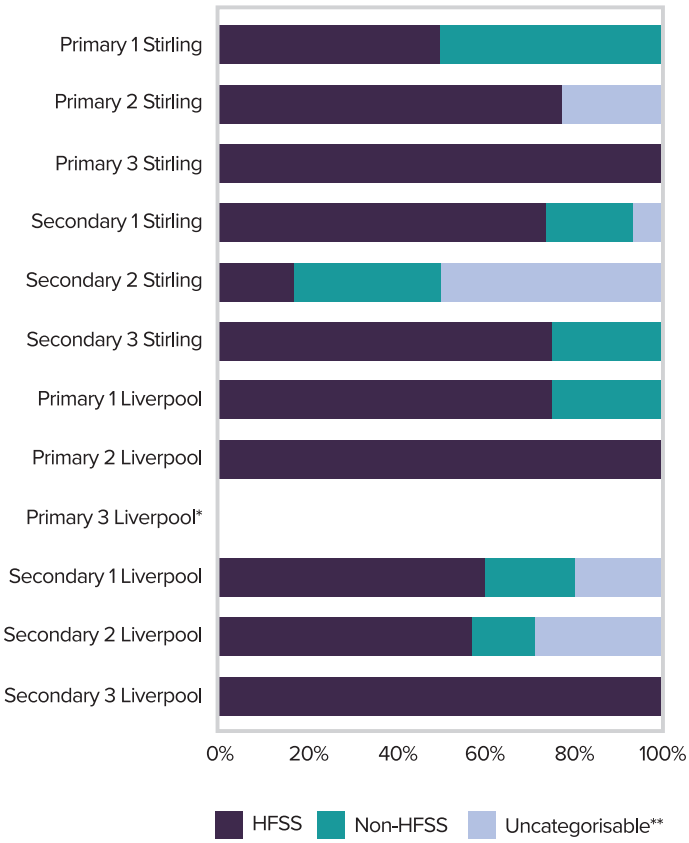


Figure 23: Proportion of outdoor food advertisements that are HFSS and non-HFSS (and non-categorisable) in Liverpool and Stirling, by school



*No eligible advertisements identified.
**Image too small or blurry to identify accurately, data not included in analysis.

are not carried out in a structured way and have been noted as being highly dependent on community need, communication and structure. Interviews carried out with Social Supermarket managers in the North East of England as part of a recent NIHR Applied Research Collaboration North East and Cumbria (ARC NENC) funded project (REF) highlighted the importance of staff ability to connect with wider collaborators and other Social Supermarkets (SSMs) in the redistribution of food, often in isolation from official routes and not documented yet has the potential to impact significantly on availability of produce[136]. As a result, comparisons across different SSMs can be complex, and further work is required to understand model components, and how these differ in effectiveness, depending on operational differences and the context in which they are implemented. This also emphasised a need for training and support for those running community CFOs. Furthermore, how they sit within the wider food system warrants investigation, when considering public health and policy implications in addressing food insecurity, health and wellbeing on a broader scale.

Since the Covid-19 pandemic, not only have food insecurity figures continued to rise, particularly in less affluent regions[137] but the growing emergence of new community centric interventions, such as social supermarkets has also been seen[138]. There are currently 67 operational social supermarkets across the North East and North Cumbria region. These are, by definition, any membership-based low cost/affordable food model/club. However, many of them provide an alternative way for people to access affordable food, as well as social support, services, and opportunities for connection.

Using Middlesbrough as an example locality. In May 2021 Middlesbrough had nine operational social supermarkets, all established under the Ecoshop model. The Ecoshop model is a financially sustainable redistribution model designed to prevent waste while making essential resources more accessible to local communities. By September 2021 there were 26 Ecoshops in Middlesbrough, and by April 2025, there were 28 Ecoshops plus an additional 4 independent or utilising other framework models.

Marketing, poverty and obesity

Most marketing of foods and drinks promotes unhealthy products, such as fast food and sugar-sweetened beverages, and their associated brands. A substantial body of research has found that even short-term exposure to this unhealthy food and beverage (hereafter: food) marketing increases children's energy intake, as well as affecting their food choices and preferences in favour of advertised foods. In October 2025, the UK Government has planned to implement a 9pm watershed on advertising foods high in fat, sugar and/or salt (HFSS) to children on television and further restrictions on 'paid-for' advertising online. Research estimates that this could make a meaningful contribution to reducing childhood overweight and obesity in the UK[139–141]. The restrictions are predicted to be most effective for children from more deprived households, as they typically watch more commercial screen media. Given that children in the North are more likely to be deprived and to live in poverty than the rest of England, there is potential for these Government actions to narrow the North-South divide in commercially-driven health inequalities.

There are also more adverts in the streetscape of less affluent areas. Data shows that there are over 8 times more outdoor advertising placements (such as billboards) in the ten most deprived constituencies (five of which are in the North) than there are in the ten least deprived constituencies (two in the North). Studies have also found that there are larger proportions of food advertisements located within the most deprived areas of northern towns and cities including Liverpool, Middlesbrough, Redcar, and Cleveland. This is consistent with global trends. A recent NIHR-funded study used 360-degree cameras to examine outdoor food

advertising on walking routes to six primary and six secondary schools in two northern UK cities (Liverpool and Stirling) in 2022[142]. In each city, the majority (65%) of food ads on these routes were for HFSS products and their associated brands.

The latest industry data states that Liverpool alone currently boasts over 5200 out-of-home advertising locations, of which 352 are digital screens, which deliver 151 million impacts (measured through GPS tracking, eye tracking and data modelling).

Several UK Local Authorities (LA) in England have agreed and/or implemented policies to restrict HFSS food advertising on LA-owned advertising spaces, including many in the North (City of York Council, Barnsley Council, Sefton Council, Knowsley Council, Liverpool City Council, Cheshire West and Cheshire Council, Cheshire East Council, St Helens Borough Council). As there is evidence that outdoor food ads induce cravings for unhealthy foods, these actions are consistent with LA's responsibility to protect public health by reducing the negative impacts of commercial activities including food advertising. To date, only a similar policy from Transport for London has been comprehensively evaluated and it was deemed to have reduced obesity prevalence. However, an LA may only own a minority of all outdoor advertising space (estimated at 30% in one city), which leaves the majority effectively unregulated (aside from some ineffective industry codes).

Recommendations

1. **Improve access to healthy food in deprived areas of the North:** Provide business rate discounts or subsidies to encourage the establishment of supermarkets, grocery stores, and fresh food markets in underserved areas.

2. **Restrict fast food outlet expansion in high-risk areas:** Implement stricter licensing and planning controls to limit new fast food outlets in the most deprived neighbourhoods, areas with already high density, and near schools or other child-focused spaces.

3. **Align restrictions placed on the digital and physical food environments:** Restrictions placed on the selling and advertising of unhealthy foods need to be consistent across all spaces.

4. **Have a clear, agreed universal definition of community food organisation:** or categorisations of community food organisations that can be quantified and tracked.

5. **Acknowledge and further understanding of an alternative food system beyond the retail food system:** which is run largely by Voluntary, Community and Social Enterprise (VCSE) and based on unstable supplies of surplus food.

6. **Ensure all collaborators are mindful of the fragility of local food systems:** including organisations in competition with one another for funding and acquisition and redistribution of surplus food.

7. Provide VCSE organisations and community food organisation staff/volunteers guidance and training around food provision and food safety.

8. Introduce national legislation on outdoor HFSS food advertising to align with regulations for TV and online, and reduce inequalities in exposure and health impacts. Concerns have been raised about the power of harmful commodity industries in influencing and shaping public health policy at all levels, including through LAs. It is well documented that LAs in England are operating under increasing financial constraints, which disproportionally affect Northern LAs. There is tension between the potential to generate revenue through advertising spaces and to boost local investment, when set against LA's responsibilities to protect public health. Several LAs in the north have partnered with brands primarily associated with less healthy foods including Nestle, KFC, McDonalds, Walkers and Pepsi via the 'Keep Britain Tidy' initiative (Wakefield Council) and Coca-Cola via the 'Coca-Cola Pub Fund' for small businesses and community projects (St Helens Borough Council). Similarly, there is worrying evidence that the food industry has infiltrated the education of children in the UK. A recent investigation found that unhealthy food brands are sponsoring thousands of school breakfast clubs and therefore exposing primary school aged children to further marketing for their HFSS products including on educational resources and branded apparel for staff. This is a particular concern for children in the North. There is a known correlation between the percentage of children eligible for free school meals and the presence of breakfast clubs within schools, so the impact of food industry funding of school education programmes will inevitably fall more substantially on children in the north compared with those in the south.

9. End LA and education sponsorship by unhealthy food brands.

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Definition of 'the North'

Geographically and administratively, the North of England is defined as the area bounded by the three northern most governmental regions – the North West, North East and Yorkshire and the Humber[143]. The North covers an area of around 40 million km2[144] and includes almost 16 million of the estimated 57 million people in England[145]. While this report focuses on collating information for "The North", the authors acknowledge that there is no singular and homogenous population of this area, with many previous reports highlighting differences at a regional, organisational or even neighbourhood level[146–148].

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