Child healthy weight
Needs assessment
April 2019

Business Intelligence | Public Health
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Introduction
The World Health Organisation has highlighted the urgent and serious challenge of obesity, which has reached alarming proportions in many countries\(^1\). England has one of the highest childhood obesity rates in Western Europe, and child excess weight is a national concern. Public Health England (PHE) report that obese children are more likely to be ill, be absent from school due to illness, experience health-related limitations and require more medical care than healthy weight children.

Overweight and obese children are also more likely to become obese adults, and have a higher risk of morbidity, disability and premature mortality in adulthood\(^2\). From childhood onwards there are physical, psychological, emotional and social consequences associated with obesity, including the effects of bullying and low self-esteem (Figure 1)\(^3\). Although the most severe consequences come later in life, some obesity-related conditions can develop during childhood.

Figure 1: How obesity harms children and young people

![Obesity harms children and young people](image)

Source: Public Health England (2015) *Childhood obesity: applying all our health*

The national context
The government aims to half child obesity by 2030\(^4\) and is placing prevention at the heart of its strategy. Local authorities are expected to be leaders, using local expertise to tailor public health services to local need, support economic growth, and influence the multiple determinants of obesity through policies on housing, leisure and other services\(^5\).

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\(^3\) Public Health England (2015) *Childhood obesity: applying all our health*


\(^5\) Department of Health and Social Security (2018) ‘*Prevention is better than cure*, 05 November 2018
The National Child Measurement Programme (NCMP) is a mandated service and key to monitoring the progress of the government’s Childhood Obesity Plan. The data is valid at both national and local level6 and therefore provides data for the Public Health Outcomes Framework, as well as informing the development and monitoring of local childhood obesity strategies. The NCMP has particularly good participation rates, rising from 80 per cent in 2006/07 to 95 per cent in 2017/187. Much of the analysis in this needs assessment is based on this rich local data source.

The NCMP data for England shows enduringly and unacceptably high prevalence of children recorded as being overweight and obese when they are measured at Year R (aged 4 to 5) and at Year 6 (aged 10 to 11). Obesity is a particular issue, and the national data consistently shows that the prevalence of obesity doubles between Year R and Year 6 (from around 9 per cent to around 20 per cent).

**Consequences and costs**

Nearly two thirds of adults in England were classed as being overweight or obese in 2015. The prevalence of obesity is similar among men and women, but men are more likely to be overweight. Obesity levels rose from 14.9 per cent in 1993 to 26.9 per cent in 2015. The rate of increase has slowed, but the trend is still upwards. Younger people are becoming obese at earlier ages and staying obese into adulthood.8

Nationally it is estimated that obesity is responsible for more than 30,000 deaths each year. On average, obesity deprives an individual of an extra nine years of life and it may overtake tobacco smoking as the biggest cause of preventable death.9

Obese people are:

- at increased risk of certain cancers, including being three times more likely to develop colon cancer
- more than two and a half times more likely to develop high blood pressure - a risk factor for heart disease
- five times more likely to develop type 2 diabetes

For individuals, obesity has physical, social and psychological consequences. It is associated with poorer employment outcomes, such as lower wages, or early exit from the workplace through sickness or early retirement1011. In the UK in 2014 it was estimated that there were approximately ten thousand benefit claimants for whom obesity was their main disabling condition12.

In 2014 to 2015, obesity-related conditions were estimated to cost the NHS more than £6 billion a year, and £27 billion in total costs to wider society (Figure 2)13. Evidence suggests that there are significantly higher levels of GP visits and hospital inpatient attendances in obese populations

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6 The NCMP is widely recognised as a world-class source of public health intelligence and the report of the findings, published annually by NHS Digital, has UK National Statistics status.
11 Robroek SJW et al. The contribution of overweight, obesity, and lack of physical activity to exit from paid employment: a meta-analysis. Scand J Work Environ Health 2013, 39 (3) 233–240
12 Department for work and pensions (2015) An independent review into the impact on employment outcomes of drug or alcohol addiction, and obesity
when compared to those of a healthy weight\textsuperscript{14}. Recent evidence suggests that, at current rates, there will be 11 million more obese adults by 2030 with associated health consequences of 7 million cases of diabetes, 6.5 million cases of heart disease and stroke and 500,000 additional cases of cancer\textsuperscript{15}.

**Predicted estimates\textsuperscript{16}** suggest that the annual Luton costs to the NHS of diseases related to obesity was £32.7 million in 2015, with this rising to £56.2 million when conditions related to all excess weight categories are also considered.

![Image of costs associated with obesity](source: Public Health England (2017) *Health matters: obesity and the food environment*

Being underweight in childhood is an important public health issue, as being underweight can have adverse effects on a child’s health, some of which may persist into adulthood or affect future generations\textsuperscript{17}.

**The importance of locality**

Excess weight in children is a national issue, which presents more problematically in some towns in England. Luton continues to be one of these towns. In the Child healthy weight needs assessment, we provide an understanding of factors which promote healthy weight, explore the

\textsuperscript{14} NICE *Health Economics: Cost effectiveness of clinical interventions*

\textsuperscript{15} Re: new bariatrics (2017) *Obesity statistics in the UK*


wider determinants of obesity, and key challenges and opportunities across the system. We attempt to unpick the complex interplay between environment, behaviour, genetics and culture, which has led to an unacceptable disparity between Luton and other parts of the country in relation to this issue.

We know that the relationship between deprivation and worse health outcomes is not linear or straightforward. This may be due to culturally-influenced behaviours that protect some communities living in deprived areas. Examples of this in Luton are breastfeeding rates, teenage pregnancy rates and smoking prevalence, all of which are better than would be expected given the deprivation in Luton. At a national level, these factors are strongly correlated with deprivation. This shows how important it is to understand risk and protective factors at a local level when determining health needs (figure 3).

Figure 3: The interplay between culture and the environment

Source: Luton Council, Business Intelligence, 2019

Summary

Background

In the Child healthy weight needs assessment, we have:

- described the problem and why it matters, including an outline of the national picture and an understanding of the cost implications
- used local data to better understand who is most affected, where inequalities exist, and where there may be intervention opportunities
- sought to understand local perspective and barriers / opportunities relating to healthy weight
- used best practice evidence to explore how Luton can better approach the issue of child healthy weight to make a real difference to people’s lives
- highlighted areas of unmet need

The summary information presented here is an outline of the findings from the needs assessment. The full report is also available, on request, from Luton Council’s Business Intelligence department.
## Key findings and recommendations

<table>
<thead>
<tr>
<th>Theme</th>
<th>No.</th>
<th>Key finding</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Costs</td>
<td>1</td>
<td>Excess weight in both adults and children in Luton is estimated to cost the NHS alone £56.2 million each year</td>
<td>Ensure that the Child Healthy Weight Strategy is prioritised, appropriately funded, and that a cost-effective primary prevention approach is adopted to bring down future costs</td>
</tr>
<tr>
<td>Overweight children</td>
<td>2</td>
<td>Luton’s Year 6 children are more at risk of having excess weight issues compared to England and to comparator areas. They are particularly likely to be obese</td>
<td>Seek to better understand the significant increase in weight issues between Year R and Year 6, and adopt appropriate and evidence-based interventions</td>
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<tr>
<td>Underweight children</td>
<td>3</td>
<td>Luton has higher proportions of underweight children when compared nationally. This is due to the high prevalence in the Asian population. However, none of the Asian groups are disproportionately represented when Luton proportions of underweight children are compared with national proportions for each specific ethnic group</td>
<td>The prevalence and patterns relating to underweight children in Luton do not suggest the need for a population approach. Healthcare professionals should continue to address individual issues that arise</td>
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<tr>
<td>Theme</td>
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<td><strong>Inequalities, at risk groups and cultural considerations</strong></td>
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<td>4</td>
<td>The risk of being overweight is not equal across all groups</td>
<td>Ensure the Child Healthy Weight Strategy includes a focus on targeted interventions.</td>
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<tr>
<td></td>
<td></td>
<td>Inequalities are affected by gender, ethnicity, able-bodiedness, geography, and social and economic status</td>
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<td></td>
<td>Analysis of data around Luton children shows particular inequalities are evident when ethnicity is considered. In Luton Black African, Black Caribbean, Bangladeshi and White ‘Other’ children are at greatest risk of being overweight or very overweight</td>
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<td>5</td>
<td>Luton-based research conducted by the University of Bedfordshire shows parents may have culturally-influenced perceptions that a heavier child is a healthier child</td>
<td>Engage with communities, bearing in mind the need for cultural understanding and sensitivity from professionals, and more consideration of culturally variable diets in health promotion campaigns</td>
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<td>The study showed that monitoring child weight was not seen by all parents as necessary or helpful. Instead, there was often a view that health is more important than weight</td>
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<td>6</td>
<td>There are threats and opportunities emerging from what we know about healthy eating and exercise in Luton</td>
<td>Use the information in this assessment to support the Luton Sport and Physical Activity Strategy and the Luton Food Plan to ensure that the disparities that have been identified are being addressed effectively</td>
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<tr>
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<td>Luton children have similar activity levels to England, but data shows that Luton adults are less likely to be active and less likely to eat ‘5 a day’ compared nationally</td>
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<td>There are known disparities by gender and ethnicity that may be affecting Luton children. Girls, Asian children, Black children and older children are all less likely to be active compared to other groups</td>
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<td>7</td>
<td>Deprivation is a key driver of excess weight, but the differences within Luton cannot be explained by deprivation</td>
<td>There is a need to understand - and work with - the realities of people’s living circumstances, and to find creative solutions that address life-management skills and well-being</td>
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<td>However, analysis has shown links between obese and very obese children in Luton and families who are struggling financially, or who may have difficult or unmanageable lives</td>
<td>Use learning from other deprived areas about what works</td>
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<td>Theme</td>
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<td>8</td>
<td>A high number of Luton wards are affected (over half of Luton wards have excess weight above England at Year 6), but there are three specific Lower Super Output (LSOA) areas that have been identified as having worse excess weight issues at Year 6, compared to Luton as well as England. This provides opportunities for specific and targeted interventions.</td>
<td>Identified areas need to be prioritised in healthy weight interventions. In particular, they need to be prioritised by the Sport and Physical Activity Strategy and the Luton Food Plan.</td>
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<td>9</td>
<td>The area around the town centre is one of the three small areas with worst excess weight issues. Children living in this LSOA are particularly vulnerable to the proliferation of fast food outlets in the area and its environs. Analysis shows that White Other children are disproportionately represented in the NCMP children living here and that addresses tend to be flats / multi-occupancy housing.</td>
<td>The Council must seek to ensure that children are not housed in areas where there is a proliferation of fast food outlets, or in multi-occupancy housing with little access to play areas.</td>
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<td>10</td>
<td>More needs to be done to ensure that the environments people are living in are not ‘anti-health’. Large areas of Luton have highly trafficked roads, high density housing and a toxic mix of takeaways and other unhealthy businesses such as betting shops.</td>
<td>A whole systems approach needs to be adopted to tackle complex social and environmental factors affecting child healthy weight.</td>
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<td>11</td>
<td>Evidence shows that a focus on active travel has benefits beyond increasing activity levels and has the potential to: • support local businesses and promote vibrant town centres • provide a high-quality, appealing public realm • reduce car travel, air pollution, carbon dioxide emissions and congestion • reduce road danger and noise • increase the number of people of all ages out on the streets, making public spaces seem more welcoming and providing opportunities for social interaction and children’s play • provide an opportunity for everyone, including people with impairments, to experience and enjoy the outdoor environment.</td>
<td>Safe and active travel (cycling and walking) to remain a core part of the transport strategy for Luton.</td>
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<td>Theme</td>
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<td>Key finding</td>
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<td>Schools</td>
<td>12</td>
<td>Someries, Icknield and Leagrave primary schools all have particularly high proportions of children who have excess weight. There are also a number of schools which have been identified as having high proportions of the at risk groups that have been identified in the assessment which may also provide opportunities for targeted interventions.</td>
<td>Services need to prioritise these schools and work with education professionals to address issues around healthy weight.</td>
</tr>
</tbody>
</table>
| Intelligence gaps / data considerations | 13  | We still have some gaps in our understanding. Nationally we know that some groups of children are more at risk of being overweight or obese, but we do not have access to the local data that would help us to properly understand the local position. The following groups may be affected:  
  - children with disabilities. This group is shown nationally to be at greater risk of obesity  
  - children with Adverse Childhood Experiences (ACE). National studies show this group is at greater risk of health-harming behaviours such as eating disorders and at greater risk of obesity related conditions such as type 2 diabetes. | Health professionals need to consider how the data that they collect can help to inform future resource prioritisation.                                                                                     |
<p>|                    | 14  | There is good quality data to help us to understand the factors affecting healthy weight. However, there is a need for improved NCMP recording around ethnicity to ensure that we properly understand our populations. The group 'any other ethnic group' is one of the groups showing as having disproportionately high proportions of children with excess weight. | When NCMP data is being collected, providers need to be aware of the reasons that NCMP records are as complete and accurate as possible, particularly in relation to ethnicity.                                                  |</p>
<table>
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<th>Theme</th>
<th>No.</th>
<th>Key finding</th>
<th>Recommendation</th>
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</thead>
<tbody>
<tr>
<td>Pathways and services</td>
<td>15</td>
<td>Total Wellbeing figures show low uptake levels and raise questions about the effectiveness of the NCMP referral process as a population approach. Just nine per cent of NCMP referrals resulted in uptake, compared to 60+ per cent for other referral types. Some potentially useful insights are gleaned from the other referral types. For example, the higher rate of successful completion in self-referrals confirm the importance of an individual wanting to change, and the high uptake from GP referrals may indicate the importance of conversation with a professional.</td>
<td>Develop a more effective pathway following NCMP identification of excess weight and look at ways of increasing referrals from health professionals</td>
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<td>16</td>
<td>Luton Council has adopted HENRY as a prevention programme, but the reach of HENRY is currently quite small. Cost and capacity are particular barriers to extending HENRY, partly due to the need for expensive crèche facilities. Uptake following referral is low. 22 per cent of the referrals in 2017-18 resulted in families engaging with the programme. There is currently no weight management programme for under 5s, despite the fact that around 1,000 Year R children are already overweight or very overweight when they start school.</td>
<td>Seek ways to expand the reach of HENRY, including the volunteer model Better understand and address low uptake following a referral Explore potential weight management programmes for under fives</td>
</tr>
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</table>
Overview and analysis

Figures for 2017/18 (see figure 4) show that, of the children with a valid NCMP measurement, 758 Luton children do not have healthy weight measurements at Year R. This represents 24 per cent of Luton Year R children. 693 Year R children are overweight or obese, and of these, 326 are already obese.

Figure 4 shows that, at Year 6, 1,321 children with a valid NCMP measurement have weight measurements outside of the healthy range. This represents 42 per cent of the Luton Year 6 children. 1,258 Year 6 children are overweight or obese and, of these, 776 are obese.

Figure 4 also shows that, compared nationally, Luton has statistically significant:

- higher proportions of children measured as underweight (UW) at both Year R and Year 6
- similar proportions of children measured as overweight and very overweight at Year R (Figure 4)
- higher proportions of children measured as overweight and very overweight (OW / VOW) at Year 6, mainly attributable to higher proportions of children in this age group who are obese or very obese (VOW)

![Figure 4: Unhealthy weight prevalence at Year R and Year 6, by weight category, 2017/18](image)

To help to illustrate the proportions, the grids in Figure 5 each represents a class of 30 children, with each cell representing one child, and showing the proportion of children falling into each of the weight categories. The grids show the comparison between Luton and England at Year R and Year 6, and highlight the contrast between Luton weight issues across the two age groups, as well as the contrasting picture with England at Year 6.

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18 The term ‘Year R’ is used throughout this report and refers to children aged 4-5 who are in Reception class
19 The term ‘Year 6’ is used throughout this report and refers to children aged 10-11
Luton’s children have notable weight issues, certainly in comparison to England, but also when compared with statistical ‘nearest neighbours’. Reflecting the complex interplay that underlies child weight issues, the comparison picture is not straightforward. Figure 6 shows the comparison of Luton to England within the context of its position in relation to its nearest neighbours (the top of the table is ‘good’, lower down ‘bad’). Figure 6 shows the following:

- Luton is statistically worse than England for children measured as underweight at Year R, but for all other weight categories, Luton is similar to England in this age group
- it is better than England, and best in relation to its peers, for overweight children, but is further down the ‘league table’ for obesity levels
- in contrast to the picture at Year R, at Year 6, Luton is statistically worse than England for all weight categories, with the exception of children measured as being overweight
- not only does Luton compare worse with the England benchmark at Year 6, it also tends to feature much lower down the table in comparison to its nearest neighbours, suggesting worse levels compared to peers
Comparison to statistical neighbours

Figure 6: Proportion of Year R and Year 6 children by weight category, Luton and its nearest neighbours compared to England and rank of Luton within its group of nearest neighbours, 2017/18

|--------|---------------------------------------------------------|------------|----------------------------------------------------------|------------|--------------------------------------------------------|------------|-----------------------------------------------------------------|------------|-----------------------------------------------------------------------|------------|

Source: PHE Fingertips
**Underweight children**

Figure 7 shows summary information for children measured as underweight at Year R and Year 6. In both year groups, the proportion of underweight children in Luton is statistically higher than England. Children in all Asian groups are affected more than children in other ethnicities.

Figure 7: Summary information for children measured as underweight at Year R and Year 6, 2015/16-2017/18

<table>
<thead>
<tr>
<th>Year R</th>
<th>England</th>
<th>Luton</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.98</td>
<td>2.05</td>
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</table>

<table>
<thead>
<tr>
<th>Year 6</th>
<th>England</th>
<th>Luton</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.39</td>
<td>2.00</td>
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**Most affected groups (3 year period)**

<table>
<thead>
<tr>
<th>Group</th>
<th>Percentage</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indian</td>
<td>6.6%</td>
<td>22</td>
</tr>
<tr>
<td>Bangladeshi</td>
<td>3.9%</td>
<td>34</td>
</tr>
<tr>
<td>Other Asian</td>
<td>3.8%</td>
<td>10</td>
</tr>
<tr>
<td>Pakistani</td>
<td>2.7%</td>
<td>56</td>
</tr>
<tr>
<td>Pakistani</td>
<td>4.0%</td>
<td>83</td>
</tr>
<tr>
<td>Bangladeshi</td>
<td>3.9%</td>
<td>37</td>
</tr>
<tr>
<td>Indian</td>
<td>3.8%</td>
<td>8</td>
</tr>
<tr>
<td>Other Asian</td>
<td>3.0%</td>
<td>9</td>
</tr>
</tbody>
</table>

**Children living in Biscot, Dallow, Leagrave, Saints**

Source: Child healthy weight needs assessment (Analysis Document), based on NCMP (3 years’ aggregated data)
Peer comparison shows Luton’s position out of 16 statistically similar areas (CIPFA nearest neighbours)

None of the Asian groups are disproportionately represented when Luton proportions are compared with national proportions for each specific ethnic group. Given these patterns, and the relatively low numbers involved, there does not appear to be the need for a population approach to underweight children in Luton.

**Excess weight children**

Figure 8 shows summary information for children measured as having excess weight at Year 6. The proportion of overweight children and the proportion of very overweight children (obese and very obese) in Luton are both statistically higher than England.
Figure 8: Summary information for children measured as having excess weight (overweight, obese and severely obese) at Year 6, 2015/16-2017/18

<table>
<thead>
<tr>
<th>Year 6 children measured as having excess weight - higher than England</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>England</strong></td>
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<tr>
<td><strong>Luton</strong></td>
</tr>
</tbody>
</table>

Boys most affected by obesity
Gap between boys and girls widens at Year 6
Particularly affects Black African and Black Caribbean children
Also affects Other White and Bangladeshi children

Peer comparison shows Luton’s position out of 16 statistically similar areas (CIPFA nearest neighbours)

There is small area geographical variation. The three worst areas for children with excess weight at Year 6 are in Limbury, Lewsey and South wards, shown as dark blue on the map that follows (Figure 9). Further analysis shows variation in the types of areas and the families that live in them.

Figure 9: Map showing excess weight by Lower Super Output Area (LSOA), Year 6 children, 2015/16-2017/18

Source: Child healthy weight needs assessment (Analysis Document), based on NCMP (3 years’ aggregated data)
Peer comparision shows Luton’s position out of 16 statistically similar areas (CIPFA nearest neighbours)

Source: NCMP, 3 years’ aggregated data
The dark blue area with worse excess weight issues compared to England and Luton, which is close to the town centre in South ward, is LSOA E01015794 (Figure 9) and encompasses streets such as Cardiff Road, Cardigan Street and Mill Street. Over the three year period, 34 out of 55 children measured under the NCMP and living in this area have excess weight. Boys and children from the White Other ethnic group are disproportionately affected. There are two stark environmental factors likely to be influencing excess weight in this area. First is that this is a particularly urban area in close proximity to a proliferation of fast food outlets. This LSOA has 54 fast food outlets within it and is adjacent to three other areas, each containing between 10 and 20 fast food outlets\textsuperscript{20}. Secondly, at least 66 per cent of addresses recorded through the NCMP in this area can be clearly identified as flats / multi-occupancy housing\textsuperscript{21}. However, address details suggest that up to 78 per cent of children recorded through the NCMP, and living in this area, may be living in flats / multi-occupancy housing\textsuperscript{22}.

The dark blue area with worse excess weight issues compared to England and Luton which is in Limbury ward is LSOA E01015765 (Figure 9). Over the three year period, 42 out of 75 children measured under the NCMP and living in this area have excess weight. Girls are more affected than boys.

Like the previous area, the addresses in this LSOA are close to a busy commercial hub, with 14 fast food outlets identified in a small area, including a 24 hour McDonald’s restaurant / drive through. This area is one of seven Luton LSOAs with more than ten fast food outlets within it. However, the houses are also within very easy reach of a large area of parkland which runs along the River Lea.

The third and final dark blue area with worse excess weight issues compared to England and Luton is in Lewsey ward and is LSOA E01015762 (Figure 9). Over the three year period, 114 out of 259 children measured under the NCMP and living in this area have excess weight. There is no difference between boys and girls. The ethnicity of children living here spans the spectrum, and there are high proportions in a range of ambiguous ‘other’ categories. No group stands out as having particular issues.

It is not clear if there are any factors relating to the built environment that would cause high levels of excess weight in this area. It is a largely residential area, known locally as ‘Poets’ which is bordered on one side by Lewsey Road and the Luton and Dunstable hospital. The area comprises a number of residential streets, some of which are populated with bungalows. There are no fast food outlets in this area, and low numbers in adjacent areas.

### Deprivation, and the need to deal with people’s reality

Deprivation is known to be a key predictor of excess weight, and nationally, obesity prevalence in the most deprived 10 per cent of the population is approximately twice that of the least deprived 10 per cent\textsuperscript{23}. Luton is ranked highly in terms of deprivation when compared nationally. The 2015 Indices of Multiple Deprivation (IMD) shows that Luton is ranked as the 59th (out of 326) most deprived local authority in England. Luton is becoming relatively more deprived in comparison to the other local authorities of England, and this trend has been happening since 2004\textsuperscript{24}.

\textsuperscript{20} Data sourced from Luton Council Environmental Food Team, 31 January 2019

\textsuperscript{21} Addresses where the terms ‘flat’ or ‘house’ precedes the street name

\textsuperscript{22} In addition to those clearly identified, addresses where the street number is followed by a letter (a, b, c or d)


\textsuperscript{24} Holmes (2015) 2015 Indices of Multiple Deprivation, Luton Council Business Intelligence Team
However, 83 per cent of the Luton children recorded under the NCMP are in the top 50 per cent most deprived nationally. This is compared to 56 per cent of the England children recorded under the NCMP. Thirty six per cent of the Luton children fall into the top 20 per cent most deprived nationally compared to 26 per cent of England children. This creates a skew in the data that means it is not possible to identify a relationship between deprivation and weight issues in the Luton NCMP dataset.

Deprivation is likely to be a factor driving excess weight levels in Luton, but the differences within Luton cannot be explained by deprivation. Figure 10 shows how the Luton population is skewed towards the most deprived deciles. The spread is fairly even across each decile, and the slight visual variations are not statistically significant.

Figure 10: Year R and Year 6 Body Mass Index (BMI) category by Index of Multiple Deprivation (IMD) decile (% in decile)

![Image of BMI categories by IMD decile](image)

Source: NCMP, 3 years’ aggregated data

Despite the ambiguous nature of the relationship between deprivation and excess weight levels, there is local evidence\textsuperscript{25} that there are links between the most vulnerable families who are struggling financially, and children who are obese or very obese. National research\textsuperscript{26} suggests a key risk to these families is living in areas where the built environment is ‘anti-health’, with highly trafficked roads, high density housing and a toxic mix of takeaways and other unhealthy businesses such as betting shops (Figure 11).

Other local evidence\textsuperscript{27} shows that some tenants who are not paying rent are spending large amounts of money on fast food / takeaways. Two case study examples are shown below:

\textsuperscript{25} Addresses in the council’s debt / discretionary payments database were matched with the addresses in the NCMP database. This showed a statistically significant higher proportion of very overweight (obese and very obese) children when the debt / discretionary payments cohort was compared to the non-debt / discretionary group. A similar result occurred with addresses in the council’s free school meal database.

\textsuperscript{26} Townshend, T, Lake, A (2017) Obesogenic environments: current evidence of the built and food environments in Perspectives in Public Health | January 2017 Vol 137 No 1

\textsuperscript{27} Luton Council Housing Department (Legal Team)
• a council tenant with two children who owes nearly £2,000 in arrears who spends an average of £350 a month on takeaways
• a council tenant with two children who owes £3,000 in arrears who spent £900 on takeaways in a two-month period

This points to a need to deal with people’s realities and to adopt more creative approaches to assisting struggling families with healthy eating as part of a whole package of life-management and well-being skills.

Figure 11: The relationship between indebtedness, addiction, mental health and the built environment

Diagram based on research by Townshend et al (2016), produced by Luton Council Business Intelligence (2019)

The urban corridor

At a ward level, there is no apparent relationship between fast food density rates and excess weight. When we map the fast food outlets by smaller Lower Super Output Areas (LSOAs), there is a slightly clearer picture. As expected, highest density areas are around the town centre, but we can also see that there is an ‘urban corridor’ running from the town centre out along the Dunstable Road, Marsh Road and Leagrave Road (Figure 12).

There is not a direct association between LSOAs with high fast food outlet rates and areas with high proportions of children with excess weight. However, LSOAs with high proportions of children with excess weight do tend to cluster around this urban corridor, sometimes, but not always exactly aligning. It is also of note that the area with the greatest fast food density is also one of the three LSOA areas with worse excess weight issues compared to Luton. Of the other two areas with worse excess weight, one is also in area with high fast food density. In contrast, however, the other one has no fast food outlets within it, and very few close by.
Who is most affected?

Local analysis\(^2^8\) has shown that the risk of being an unhealthy weight is not equal across all groups. Inequalities are affected by gender, ethnicity, able-bodiedness, geography, and social and economic status. Ethnicity stands out as the greatest predictor of unhealthy weight for the Luton NCMP children. The summaries presented here are for the groups of children most at risk in the different weight categories.

Asian children

Asian children in Luton are statistically more likely to have weight issues compared to other ethnic groups, although the patterns vary across the different specific Asian ethnicities, and when Year R is compared to Year 6. The following are statistically significant:

- underweight: higher than England at Year R and Year 6 (Figure 13)
- overweight and very overweight: higher than England at Year 6
- Year 6 boys are particularly affected, with Year 6 Bangladeshi boys being most affected by the highest weight levels (Figure 14)
- Bangladeshi girls measured as having excess weight: higher than England at Year 6 (Figure 15)

\(^{28}\) This refers to the analysis conducted for this assessment, which is described in full in the full version of the Child healthy weight needs assessment (available on request from Luton Council Business Intelligence)
Figure 13: Underweight Asian children, 2015/16-2017/18

Asian children measured as underweight - higher than England and Luton

<table>
<thead>
<tr>
<th>Year R</th>
<th>Year 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>0.98</td>
</tr>
<tr>
<td>Luton</td>
<td>2.05</td>
</tr>
<tr>
<td>Asian girls (Luton)</td>
<td>2.3</td>
</tr>
<tr>
<td>Asian boys (Luton)</td>
<td>4.8</td>
</tr>
</tbody>
</table>

Source: Child healthy weight needs assessment (Analysis Document), based on NCMP (3 years’ aggregated data)

Figure 14: Overweight Asian boys, 2015/16-2017/18

Year 6 Asian boys measured as overweight and very overweight - higher than England and Luton

<table>
<thead>
<tr>
<th>Overweight and very overweight</th>
<th>Very overweight (obese or severely obese)</th>
</tr>
</thead>
<tbody>
<tr>
<td>England boys</td>
<td>36.4</td>
</tr>
<tr>
<td>Luton (all)</td>
<td>40.9</td>
</tr>
<tr>
<td>Luton boys</td>
<td>42.9</td>
</tr>
<tr>
<td>Asian boys (Luton)</td>
<td>43.8</td>
</tr>
<tr>
<td></td>
<td>22.2</td>
</tr>
<tr>
<td></td>
<td>25.4</td>
</tr>
<tr>
<td></td>
<td>27.8</td>
</tr>
<tr>
<td></td>
<td>29.1</td>
</tr>
</tbody>
</table>

Overweight and very overweight Asian boys: most affected ethnicities

- Bangladeshi boys - 44.8% (211 children)
- Pakistani boys - 44.0% (467 children)
- 30% of Bangladeshi Year 6 boys are very overweight (obese or very obese)

Source: Child healthy weight needs assessment (Analysis Document), based on NCMP (3 years’ aggregated data)

Figure 15: Bangladeshi girls – Excess weight, Year 6, 2015/16-2017/18

Year 6 Bangladeshi girls measured as obese and very obese - higher than England and Luton

<table>
<thead>
<tr>
<th>Overweight and very overweight</th>
<th>Very overweight (obese or severely obese)</th>
</tr>
</thead>
<tbody>
<tr>
<td>England girls</td>
<td>32.0</td>
</tr>
<tr>
<td>Luton girls</td>
<td>38.8</td>
</tr>
<tr>
<td>Asian girls (Luton)</td>
<td>37.1</td>
</tr>
<tr>
<td>Bangladeshi girls (Luton)</td>
<td>40.7</td>
</tr>
<tr>
<td></td>
<td>18.0</td>
</tr>
<tr>
<td></td>
<td>22.9</td>
</tr>
<tr>
<td></td>
<td>21.2</td>
</tr>
<tr>
<td></td>
<td>24.5</td>
</tr>
</tbody>
</table>

Source: Child healthy weight needs assessment (Analysis Document), based on NCMP, 3 years’ aggregated data

Figure 16 describes what we know about the Asian children that feature in the NCMP data, and their families.
Asian families tend to live in Biscot, Dallow and Saints. Compared to Asian children living elsewhere in Luton, Asian children living in Biscot may have a slightly greater tendency to being overweight, and Asian children in Saints may be slightly less likely to be underweight.

Areas where Asian families tend to live are shown as having the highest smart TV ownership and a younger generation that likes new technology. This may impact on activity levels, but also provide intervention opportunities.

50 per cent of the Asian children measured go to William Austin (infants and juniors), Denbigh, Beechwood, Maidenhall, Beech Hill and Downside schools.

Nationally Asian children, and particularly girls, are less likely than other groups to be active every day and Asian girls are also less likely to be active three times a week.

Research carried out in Luton by the University of Bedfordshire suggests that sugar intake is high in the Asian community due to traditional diet. Asian children are less likely to opt out of the NCMP compared to other groups.

Source: Child healthy weight needs assessment (Analysis Document), based on NCMP (3 years’ aggregated data)

**White Other boys**

Boys in Luton recorded in the NCMP database as White Other ethnicity are statistically more likely to be measured as very overweight (obese and severely obese) at Year 6. Unlike other ethnicities, which tend to feature both genders when a weight issue is evident, White Other girls are not affected. Figure 17 shows the differences between the White Other boys compared to England boys and other boys in Luton, and describes what we know about the White Other boys that feature in the NCMP data and their families.

**White Other Year 6 boys measured as obese or severely obese - higher than England and Luton**

<table>
<thead>
<tr>
<th>England boys</th>
<th>22.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luton (all)</td>
<td>25.4</td>
</tr>
<tr>
<td>Luton boys</td>
<td>27.8</td>
</tr>
<tr>
<td>White Other boys (Luton)</td>
<td>31.3</td>
</tr>
</tbody>
</table>

White Other boys are more likely to have weight issues at Year 6. This group is particularly likely to be measured as obese or severely obese.

White Other families tend to live in Farley and South wards. White Other boys in Biscot and Farley being may be slightly more likely to be overweight compared to White Other boys living in other wards. There is also a particularly high proportion of white other children living in one of the small areas with the worst excess weight issues (Cardiff Street / Cardigan Street / Mill Street).

34 per cent of the White Other boys measured go to Sacret Heart, St Margaret of Scotland, St Martin de Porres, St Matthew's or St Josephs schools.

White Other' is a broad ethnic grouping which may be particularly vulnerable to poor quality recording which may have distorted the intelligence picture relating to this group. 17 per cent of records did not have a valid ethnicity recorded.

Source: Child healthy weight needs assessment (Analysis Document), based on NCMP (3 years’ aggregated data)
**Black children**

Black children in Luton are statistically more likely to have excess weight issues (particularly to be very overweight) compared to other ethnic groups. Unlike other Luton children, the Black ethnic groups are affected at both Year R (Figure 18) and Year 6 (Figure 19).

*Figure 18: Overweight and very overweight (obese and very obese) Black children, Year R, 2015/16-2017/18*

| Year R Black children measured as having excess weight - higher than England and Luton |
|---|---|---|
| **Overweight** | **Commentary** | **Very overweight (obese or severely obese)** |
| England | 12.8 | Boys are most affected | England | 9.5 |
| Luton | 11 | All Black ethnic groups are affected, with the exception of Black Caribbean girls | Luton | 10.8 |
| Black boys | 13.1 | Children with mixed backgrounds are most affected at this age | Black boys | 16.6 |
| Black girls | 10.9 | | Black girls | 13.3 |

Source: Child healthy weight needs assessment (Analysis Document), based on NCMP, 3 years' aggregated data

*Figure 19: Overweight and very overweight (obese and very obese) Black children, Year 6, 2015/16-2017/18*

| Year 6 Black children measured as having excess weight - higher than England and Luton |
|---|---|---|
| **Overweight** | **Commentary** | **Very overweight (obese or severely obese)** |
| England | 14.2 | All Black ethnic groups are affected, but particularly Black African and Black Caribbean children | England | 20.2 |
| Luton | 15.5 | | Luton | 25.4 |
| Black boys | 18.9 | | Black boys | 33.2 |
| Black girls | 12.4 | | Black girls | 34.3 |

Source: Child healthy weight needs assessment (Analysis Document), based on NCMP (3 years’ aggregated data)

*Figure 20: What we know about the Black Children that feature in the Luton NCMP data*

- **Black families tend to live in Leagrave, Lewsey and South. No indication that Black children living in any particular ward are more likely to have excess weight issues**

- **30 per cent of the Black children measured go to Bushmead, St Margaret of Scotland, St Martin de Porres, St Matthew’s or St Josephs schools**

- **Nationally Black children, and particularly girls, are less likely than other groups to be active every day and less likely to be active three times a week**

- **Research carried out in Luton by the University of Bedfordshire suggests that fruit and vegetables are viewed as being very important in a Black African / Caribbean diet. It also suggests that some Black families believe BMI is a poor indicator of healthy weight which may mean they do not see the relevance of the NCMP to their children**

Source: Child healthy weight needs assessment (Analysis Document), based on NCMP 3 years’ aggregated data

**Intelligence gaps**

We still have some gaps in our understanding. Nationally we know that some groups of children are more at risk of being overweight or obese, but we do not have access to the local data that would help us to properly understand the local position.
Children with disabilities

Local obesity prevalence in children with a Limiting Long-Term Illness (LLTI), learning disabilities or physical disabilities remains an intelligence gap. Children and young people with disabilities are more likely to be obese than children without disabilities, and this risk increases with age. This group of children are therefore at greater risk of serious obesity-related health issues. Drivers of obesity in this group include diet, levels of physical activity, parental attitudes and behaviour, access to recreational facilities, medication and genetics.²⁹

Being obese may worsen the complications arising from the health conditions or impairment associated with disability and increase an individual’s likelihood of developing pain, mobility limitations, fatigue and depression, thus creating a vicious cycle. Children and young people with disabilities are likely to experience health inequalities, and these can be increased by obesity. Obesity may increase the healthcare costs of children and young people with disabilities.

Children with a LLTI are 35 per cent more likely to be obese than children without a limiting long-term illness (Figure 21). Boys are slightly more affected than girls (Figure 21).³⁰

Figure 21: Prevalence of obesity among children with and without a Limiting Long-Term Illness (LLTI), also showing obesity by gender for children with a LLTI, 2006 -2010


Adverse Childhood Experience

Obesity has been cited as one of the results of health-harming behaviours that can develop in children and young people who have grown up with Adverse Childhood Experiences (ACEs), although locally this also remains an intelligence gap. Nationally, eating disorders are robustly and strongly associated with children and young people who have suffered physical and sexual abuse, and are also likely to be associated with emotional abuse and neglect. Changes in the risk of disease development with increased history of ACE are evident, and the risk of diabetes type 2 more than doubles in children with 4 or more ACEs (Figure 22), and obesity is likely to be a contributory factor.³¹

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³¹ UCL Institute of Health Equity (2015) The impact of adverse experiences in the home on the health of children and young people, and inequalities in prevalence and effects
Causal pathways

A series of focus groups\(^{32}\) were conducted by Luton Public Health to try to understand the causal pathways affecting obesity levels in Luton. This work supports the findings of Foresight\(^{33}\) and shows the underlying environmental and behavioural drivers perpetuating obesity that exist in a complex and multifaceted system.

The causal pathway work supports the need to develop a sustained ‘whole systems approach that will promote transformative, coordinated action across a wide variety of sectors, many of whom are outside what has traditionally been referred to as the health sector’.

Factors affecting obesity that were highlighted by focus group participants are shown below as (a) broad categories, (b) an embedded causal pathways diagram showing the detail for each of the categories and (c) a wordcloud which shows the themes that were most often mentioned by focus group participants, with those mentioned most being in largest text.

Participants had a good understanding of factors that positively affect healthy weight and referred specifically to forms of exercise, 5 a day, drinking water and eating healthily. They appeared to be less aware of the effects of social, environmental and economic factors and of the obesogenic environment. Time was most often cited as a factor, which perhaps reflects the challenge of parenting in the present day economy.

\(^{32}\) In total eight focus groups have been held with three taking place in local primary schools, three numbers in secondary two with parents in Flying Start Children Centres and participants were asked to be as holistic in their thinking as they wished

Diet and exercise: threats and opportunities

There is limited information relating to diet and exercise levels in Luton. This section therefore refers to various measure that we have, including some that relate to adults rather than children. They show a mixed picture. While Luton children have similar activity levels to England, there are likely to be key inequalities around gender and ethnicity (Figure 23).

The data also suggest that Luton adults have worse levels of diet (Figure 24) and exercise (Figure 25) compared to England, which may have implications in terms of parental example and the likelihood that parents will be participating in healthy activities with their children. Opportunities do exist in terms of encouraging walking and cycling to school (Figure 26) and school meals (Figure 27). The provision of healthy and balanced school meals is an important influence on diet, particularly for children from the poorest families.34

Figure 23: Activity levels in school aged children, 2018

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Luton children and young people have activity levels similar to England, but the national data show some key inequalities

- Reduction in activity levels after Year 8
- Girls less likely to be regularly active, particularly Asian girls and Black girls
- Asian and Black children less likely to be regularly active

Source: Active Lives Children and Young People Survey (2018)

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Figure 24: Five a day - Luton adults

Adults in Luton are less likely to eat '5 a day' when compared with England and peers

Source: PHE fingertips, accessed January 2019

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Figure 25: Luton adults cycling for travel at least three days per week (%), 2015/16-2016/17

<table>
<thead>
<tr>
<th>Percentage of adults cycling for travel at least three days per week</th>
<th>Luton</th>
<th>Percentage point (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015/16</td>
<td>3.4</td>
<td>1.2</td>
</tr>
<tr>
<td>2016/17</td>
<td>1.5</td>
<td>0.3</td>
</tr>
</tbody>
</table>

Source: Department for Transport (based on Active Lives, Sport England)

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34 The Children’s Society (2016) Addressing obesity through school meals
Evidence shows that increasing opportunities to walk and cycle has benefits beyond increasing activity and has the potential to:

- support local businesses and promotes vibrant town centres
- provide a high-quality, appealing public realm
- reduce car travel, air pollution, carbon dioxide emissions and congestion
- reduce road danger and noise
- increase the number of people of all ages out on the streets, making public spaces seem more welcoming and providing opportunities for social interaction and children's play
- provide an opportunity for everyone, including people with impairments, to experience and enjoy the outdoor environment

What are we doing?

The current focus of our approach has been based on the last published Healthy Weight Strategy 2009-2014. This focus has been around Prevention and Weight management:

**Prevention**

- re-directing resources to ensure greater emphasis and better co-ordination of interventions to prevent overweight and obesity
- particular focus on pregnancy, early years and school age children
- increasing support for adults to make healthy lifestyle choices including the provision of personalised advice and support

**Weight management:**

- extending the reach of child weight management and commissioning additional programmes to support children and young people who are overweight or obese

35 Public Health England and the Local Government (2013) *Association Obesity and the environment: increasing physical activity and active travel*
• significantly increasing access to weight management programmes through developing a menu of options to support overweight and obese adults to manage their weight.

**Current services**

**Total Wellbeing child weight management**

A free 12 week programme of child weight management is offered as part of Total Wellbeing Luton. Designed by nutritionists, the programme is offered to 5-10 year olds and 11-15 year olds and aims to provide a whole family approach.

Total Wellbeing child weight management figures for April to December 2018 (see Table 1) show 880 children were referred, with the bulk of these being referred through the NCMP. 91 per cent of the referrals were through the NCMP, with the remainder made up of GP surgeries (4 per cent), School Nurse (3 per cent) and self-referrals (2 per cent). 80 per cent of children taking up the service had weight above the 98th centile, that is to say their weight fell into the categories ‘obese’ or ‘severely obese’.

When we look at uptake and completion rates, however, it is clear that referrals via the NCMP are least likely to result in positive outcomes. Just 9 per cent of NCMP referrals resulted in attendance at Total Wellbeing services. This is compared to 67 per cent for a GP surgery referral, 63 per cent for a school nurse referral and 65 per cent for a self-referral.

Self-referrals were most likely to result in a successful completion. For the self-referral cohort, 30 per cent of referrals and 46 per cent of uptakes resulted in successful completion. For NCMP referrals, these figures are 2 per cent of referrals and 22 per cent of uptakes. While GP surgery referral rates are high, successful completion is low for this group with just one out of the 33 GP surgery referrals resulting in the family attending at least ten out of the twelve sessions offered by the programme.

Overall, 16 per cent of referrals resulted in uptake and just 3 per cent resulted in successful completion. Of those accessing the service, 18 per cent resulted in successful completion.

**Table 1: Total Wellbeing Child Weight Management, April to December 2018: referrals, uptake and successful completion**

<table>
<thead>
<tr>
<th>Referral type</th>
<th>Referrals count</th>
<th>Referrals per cent</th>
<th>Uptake count</th>
<th>Uptake per cent</th>
<th>Successful completion per cent of referrals</th>
<th>Successful completion per cent of uptakes</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCMP</td>
<td>803</td>
<td>91</td>
<td>69</td>
<td>9</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>GP surgery</td>
<td>33</td>
<td>4</td>
<td>22</td>
<td>67</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>School nurse (non-NCMP)</td>
<td>24</td>
<td>3</td>
<td>15</td>
<td>63</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>Self / signposted / leaflet</td>
<td>20</td>
<td>2</td>
<td>13</td>
<td>65</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td>880</td>
<td>100</td>
<td>141</td>
<td>16</td>
<td>25</td>
<td>3</td>
</tr>
</tbody>
</table>

Source, Total Wellbeing Child Weight Management figures, April to December 2018

**Notes:**

1. Uptake = attended first appointment
2. Successful completion = the family attended at least ten out of the twelve sessions in the programme
3. There are a further 9 children who have successfully completed the programme, referred from various partners (Early Help Team, Family worker/schools, Internal referrals, Paediatrics at L&D). Detail is not available for the uptake and completion rates for these children, but they are included in the outcome data

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36 From Non-NCMP school nurse engagements
37 ‘Uptake’ = attended first appointment; ‘completion’ / ‘successful completion’ = family attended at least ten out of the twelve sessions in the programme
In addition to high attendance at sessions, 62 per cent of completers showed an improvement with their BMI. There has been an average BMI reduction of -1.

The Total Wellbeing figures raise questions about the effectiveness of the NCMP referral process as a population approach due to the low ratio of uptake from referrals. Although based on quite low numbers, some potentially useful insights are gleaned from the non-NCMP referral types. For example, the self-referrals confirm the importance of an individual wanting to change (high completion rates) and the GP surgery referrals may indicate the importance of conversation with a professional (high uptake rates following referral).

HENRY

HENRY is a UK charity that aims to protect babies and young children from the health and emotional consequences of obesity throughout childhood and beyond. HENRY has been adopted in Luton, and is a holistic and universal approach that tackles child obesity through supporting parents and carers to give their child a healthy, happy start in life. It is a preventative programme, rather than a weight management one. There is currently no weight management programme for under fives in Luton.

The HENRY programme in Luton reached 66 children during 2017-18 and reports a retention rate of 92 per cent. It has higher than national rates for retention (92 per cent in Luton compared to 83 per cent in England) and for the average change in healthy lifestyle (3.30 compared to 2.99).

Results are positive across all indicators and there are increases across a range of healthy behaviours and well-being levels, and decreases in unhealthy behaviours (Figure 28). The reach of HENRY is currently quite small, producing good results, but within small numbers of families.

![Figure 28: Some key outcomes from the HENRY Programme in Luton 2017-18](source: Healthy Families: Henry Group Programme, Luton 2017-18)

<table>
<thead>
<tr>
<th>Increasing levels (+ve)</th>
<th>Decreasing levels (+ve)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased fruit and vegetable consumption</td>
<td>Decreased consumption of sugary snacks and drinks</td>
</tr>
<tr>
<td>Increased activity</td>
<td>Less frequent meals in front of TV</td>
</tr>
<tr>
<td>Mealtimes and snacks</td>
<td>Decreased screen time</td>
</tr>
<tr>
<td>Increased ability to set boundaries</td>
<td>Parents report increased happiness and confidence</td>
</tr>
<tr>
<td>Parents report increased happiness and confidence</td>
<td>Parents report less stress</td>
</tr>
</tbody>
</table>

Source: Healthy Families: Henry Group Programme, Luton 2017-18

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38 [HENRY.org](https://HENRY.org)  
39 Retention refers to families staying on the programme once they have started and have attended two sessions  
40 Healthy Families: Henry Group Programme, Luton 2017-18  
41 All increases / decreases relate to the change from the baseline (programme start) to programme completion  
42 Healthy Families: Henry Group Programme, Luton 2017-18
The number of HENRY programmes running in Luton and the number of staff trained to deliver it in different settings have increased this year. Flying Start are looking to develop a volunteer model to extend the programme’s reach. Particular barriers to extending HENRY are cost and capacity, partly due to the need for crèche facilities to support all families involved in the programme. HENRY programmes are not being offered at weekends or evenings, and this is likely to be a barrier to some families.43

Uptake following referral is low. The total number of children reported on by HENRY is 22 per cent of the referrals received. Referral reasons are shown below:

- one or more parents overweight or obese
- a parent expressing concern about child’s weight, eating habits (eg fussy eater) or oral health
- evidence of no responsive feeding techniques or poor family lifestyle habits
- early introduction of solids (under six months)
- parental anxiety around feeding

**What do we need to do next?**

The recommendations from this needs assessment need to be considered in line with taking a whole systems approach to improving the rates of children in Luton that are a healthy weight.

A child healthy weight strategy will be developed in Spring 2019 to reflect the recommendations and also to update the child healthy weight clinical pathways in Luton.
Reference List


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