Healthy weight for Children and Young People in Cheshire West and Chester

What is a JSNA?

The Joint Strategic Needs Assessment (JSNA) is the comprehensive assessment of the current and future health and social care needs of children and young people aged 0 to 19 (25 with SEND) and their families, with a focus on improving the health and wellbeing and reducing inequalities. There are nine individual chapters that comprise this JSNA.

A Joint Strategic Needs Assessment (JSNA) looks at all the information available around the current and future health and social care needs of populations in the local area. It will then use the data to inform and guide the planning and commissioning of health, well-being and social care services within a local authority. The implementation of recommendations will be overseen by the Health and Wellbeing Board.

As part of the JSNA's development, we have ensured the following principles and values have been considered:

- Think Family
- Our Way of Working and trauma informed practice.
- Prevention, early intervention and avoiding escalation of need.
- The voice of children, young people and families is central to the design, delivery and evaluation of service provision.
- Strength-based, personalised service provision focussed on relationships.
- Integrated services which mean that families tell their story once and can easily access seamless support.
- Equality.
- Reducing inequality.

Chapters Introduction

Cheshire West and Chester Councils 0-19 (25 with SEND) JSNA aims to bring benefits by identifying key health, wellbeing, and social care needs. Findings will help the Council and its partners to make more informed decisions about how we provide support and services to achieve the best outcomes for our children, young people, and their families/carers.

Each chapter has considered literature relevant to the assigned area of focus, drawing on this information to highlight key points that could contribute to findings and recommendations.

Although each JSNA chapter can be read as an individual report. Throughout every chapter, there were common themes relating to how we collect and analyse data particularly in relation to outcome information for certain groups; how inclusive and consistent messages are communicated and how we would like to do more coproduction and peer mentoring.

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1. Introduction

The World Health Organization (WHO) regards childhood obesity as one of the most serious global health issues for the 21st century. Ending childhood obesity is one of the most complex health challenges facing the international community.

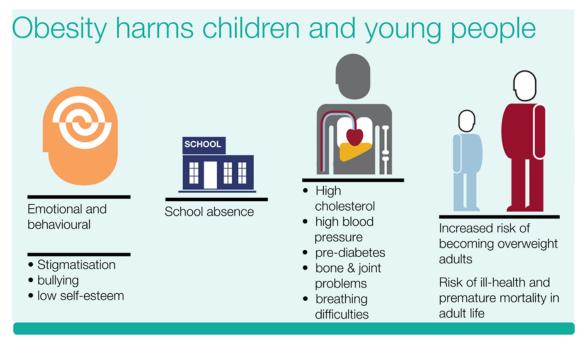
In the UK, over a fifth of children are living with overweight or obesity by the time they start school. This rises to over a third by the time children leave primary school age 10-11. Prevalence continues to increase over the life course, with 65.4% of adults in the UK currently living with overweight or obesity.

Deprivation has a significant role to play, with children living in the most deprived households twice as likely to be living with obesity at both Reception age and Year 6 compared to those from the least deprived. In 2018, the UK government set a target to halve childhood obesity and significantly reduce the gap in obesity between children from the most and least deprived areas by 2030.

Obesity is associated with poor psychological and emotional health, and many children experience bullying linked to their weight. Children living with obesity are more likely to become adults living with obesity and have a higher risk of morbidity, disability, and premature mortality in adulthood.

In the financial year 2020 to 2021, the NHS in the UK is estimated to have spent £6.5 billion on overweight and obesity related ill-health. This is around 4.7% of the NHS budgetⁱ. Reducing obesity and improving diets is essential to increasing healthy life expectancy.





1.1 Causal factors

A person's weight is a complex issue governed by the interactions between multiple genetic and environmental factorsⁱⁱ. In the most simplistic terms, weight is gained due to an imbalance of energy in and energy out, so excess weight could be simply referred to a poor diet and lack of physical activity. In practice we know that there is a complex set of factors influencing weight. In the years of public health intervention, nothing so far has made any long-term impact in reversing the ever-increasing rates of overweight and obesity. Between 2006-7 and 2021-22, the percentage of children living with obesity has increased, despite a myriad of programmes and interventions being available.

A child's earliest years have a powerful influence on their later health status. Infant feeding practices, how parents respond to their infants along with parents' perception of infant growth and appetite can all impact on infant feeding behaviour and risk of excess weight during early childhoodⁱⁱⁱ. These can continue into later childhood, setting out a child's relationship with food. Similarly, a parent's relationship with physical activity and the importance they place upon activity can influence greatly how active a child is during the early years and beyond. Being breastfed is linked to reduced prevalence of obesity in later life. In two meta-analyses of breastfeeding versus bottle feeding, breastfeeding was associated with a 13 percent and a 22 percent reduced risk of obesity in later life^{iv}. Breastfeeding is further explored in the Breastfeeding chapter of the 0-19 JSNA.

However, there are many other factors which affect a person's weight, and for children the majority of these are beyond their control. Referred to as 'wider determinants', these can range from a person's family situation, their social connections, the environments in which they spend time - where they live, go to school and socialise, as well as what media they are exposed to. No one is 'immune' to obesity, but some people are at a higher risk of overweight and obesity than others because they are exposed to more risk factors e.g.,

unhealthy environments. The Marmot Review (Fair Society, Healthy Lives) highlights that income, social deprivation and ethnicity have an important impact on the likelihood of an individual being classified as living with obesity.

The food system is not set up to help us to eat a healthy balanced diet, there are numerous challenges including the fact that the most deprived fifth of the population would need to spend 50% of their disposable income on food to meet the cost of the Eatwell Guide – the UK Government's recommended healthy diet. This compares to just 11% for the least deprived fifth. The recent Scientific Advisory Committee on Nutrition (SACN) statement on ultra-processed foods and health found that an increased consumption of ultra-processed foods is associated with an increased risk of adverse health outcomes, including higher bodyweight vi. Further to this, more healthy foods are over twice as expensive per calorie as less healthy (often ultra-processed) foods, and it is harder to buy healthy foods in deprived parts of the UK.

We are all exposed to advertising and marketing, and research shows that a third (33%) of food and soft drink advertising spend goes towards confectionery, snacks, desserts and soft drinks compared to just 1% for fruit and vegetables, whilst only 7% of breakfast cereals and 8% of yogurts marketed to children are low in sugar. Research shows that children and young people living in areas of deprivation are more likely to be adversely impacted by marketing and advertising of less healthy products^{vii}.

The increasing consumption of out-of-home meals – that are often cheap and readily available at all times of the day - has been identified as an important factor contributing to rising levels of obesity. Public Health England estimated in 2014 that there were over 50,000 fast food and takeaway outlets, fast food delivery services, and fish and chip shops in England. Nationally more than one quarter (27.1%) of adults and one fifth of children eat food from out-of-home food outlets at least once a week. These meals tend to be associated with higher energy intake, higher levels of fat, saturated fats, sugar, and salt, and lower levels of micronutrients. This is covered further in the 'Eating Well' chapter.

1.1.1 COVID-19 and cost-of-living crisis

The COVID-19 pandemic impacted on the health and wellbeing of our population, including the weight status of our children and young people. England saw an unprecedented increase in the prevalence of obesity and severe obesity in 2020 to 2021 following the COVID-19 pandemic. This led to school closures and other public health measures which limited opportunities for physical activity and for some, access to a healthy balanced diet. Nationally the increase seen in 2020 to 2021 has reversed, but for some population groups including Year 6 children obesity prevalence remains higher than pre-pandemic.

Following the pandemic, the cost-of-living crisis struck. This further widened the inequalities experienced by the most deprived, and also caused others to experience food insecurity and other associated stresses caused by money worries. Food insecurity refers to people who do not always have physical and economic access to sufficient healthy food. Latest data from the Food Foundation has found that one in four households with children experienced food insecurity in the previous month. Food insecurity, access to a healthy diet and physical activity are further discussed in the 'Eating Well' and 'Being Active' chapters.

1.1.2 Weight stigma

With a move from individual blame to an acceptance that the wider determinants of unhealthy weight (such as social and environmental factors which influence our health) have a significant impact on the weight status of the population, there remains a culture of weight discrimination and stigmatisation.

According to the World Obesity Federation, "Weight stigma refers to the discriminatory acts and ideologies targeted towards individuals because of their weight and size". Weight stigma can have a detrimental effect on people across the weight spectrum and can have a significant impact on individuals, including long lasting psychological, social and behavioural implications. Psychological outcomes can include depression, anxiety, low self-esteem, poor body image, self-harm and suicide. Behavioural outcomes can include unhealthy weight control practices, binge eating, and avoidance of physical activity and health screening. Social outcomes can include social rejection by peers, potential denial of jobs and biased attitudes from healthcare professionals^{viii}. Particularly for children and young people weight stigma manifests in bullying, teasing and victimisation^{ix}

The scope of this chapter was as follows:

To review the existing offer within the borough and highlight opportunities to improve children, young people and families access to healthy weight support.

2. Summary

Too many children in Cheshire West and Chester are living with overweight or obesity. Whilst the latest data shows a reduction in overweight and obesity of Cheshire West and Chester children of Reception age, the increase in overweight and obesity for Year 6 children is a concern. Further to this, more of our Year 6 children are now classed as living with obesity than overweight, showing a move to increased weight for this age group. Deprivation is a key player, with those from deprived households twice as likely to be living with overweight and obesity than their peers from the least deprived households.

Weight is a complex and emotive subject with multiple drivers. The large increase in overweight and obesity from Reception to Year 6 highlights the need to take a wholesystem approach to support children to eat well and be active. The fact that almost a quarter of our children start school with excess weight shows a need to work with families and early years settings to embed healthy behaviours during the first years of life.

There is a strong network of partners in Cheshire West and Chester supporting families. Work needs to be done to ensure support is being provided to those who need it most. There are number of recommendations as part of this chapter.

3. Weight status of children and young people in Cheshire West and Chester

In England the National Child Measurement Programme (NCMP) is a mandated public health programme which local authorities deliver on an annual basis. The NCMP measures the height and weight of all children in Reception and Year 6 of primary school (except for children who opt-out, whose parents choose to opt their child out of the programme, and those absent on the day). The height and weight measurements are used to calculate each child's Body Mass Index (BMI). This data is then collated and analysed by NHS Digital to produce trend analysis for each local authority^x.

The latest data available for Cheshire West and Chester is the National Child Measurement Programme conducted in the 2021-22 academic year. It covers children in Reception (aged 4-5 years) and Year 6 (aged 10-11 years) in mainstream state-maintained schools in England.

Due to the impact of the COVID-19 pandemic over the 2019/20 and 2020/21 school years, the last full years data collection for Cheshire West and Chester was 2018/19. As such, annual comparisons in this report are made to this pre pandemic, full collection period.

Participation rates for Reception age pupils in Cheshire West and Chester was 91%, higher than that for the Year 6 Age group which was 89.6%. The figures include all pupils who were measured in Cheshire West and Chester schools including those living outside the borough. Participation rates for England as a whole were 92.8% and 91.9%, respectively.

Local coverage data includes Cheshire West and Chester residents attending schools within Cheshire West and Chester. As such those whose residential postcode is outside the borough, but they attend a Cheshire West and Chester school are not included. Likewise, those living within the area but attending a school outside the borough are not included. Nationally sourced data includes all Cheshire West and Chester residents regardless of school location.

3.1 Overview

The prevalence of Reception children who are living with obesity fell, from 9.1% in 2018/19 to 8.0% in 2021/22. The change is not statistically significant. The Cheshire West and Chester prevalence of 8.0% in 2021/22 is statistically significantly lower (better) than the England prevalence of 10.1%.

The prevalence of Year 6 Children who are living with obesity rose, from 19.4% in 2018/19 to 20.1% in 2021/22. The change is not statistically significant. The Cheshire West and Chester prevalence of 20.1% in 2021/22 is statistically significantly lower (better) than the England prevalence of 23.4%.

For the 2021/22 time period, boys were recorded as having a higher prevalence of living with obesity than girls for both age groups. In Reception, 8.5% of boys were living with obesity compared to 7.3% of girls. In Year 6, 21.7% of boys were living with obesity compared to 18.3% of girls. [Local extract]

Children living in the most deprived areas were more than twice as likely to be living with obesity, than those living in the least deprived areas. 10.9% of Reception children living in the most deprived areas were living with obesity compared to 5.1% of those living in the least deprived areas. 29.6% of Year 6 children living in the most deprived areas were living with obesity compared to 12.3% of those living in the least deprived areas. [Local NCMP extract]

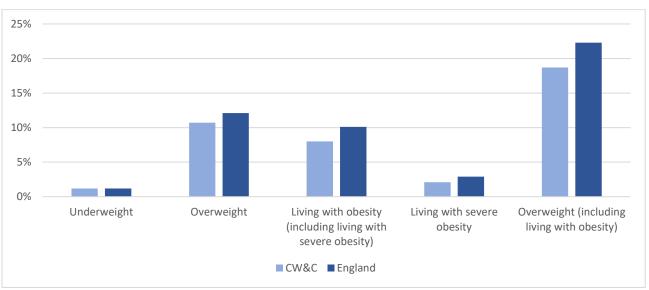
Age

The prevalence of children living with obesity in Cheshire West and Chester is more than twice as high in Year 6 (20.1%) compared to Reception (8%). The same can be said for those living with severe obesity (2.1% in Reception and 4.7% in Year 6). This is also reflected in the difference at a national level, for both Body Mass Index (BMI) categories.

Charts 1 and 2 compare the percentage of children in each BMI category for Cheshire West and Chester (CW&C) compared to England, the healthy weight category is not included here so as to not stretch the axis and to make the comparisons of the groups with lower

percentages more difficult to view. The figures for healthy weight can be found in the tables below each chart. Note that the 'overweight (including living with obesity) figures are a combined figure of the overweight and obesity figures.

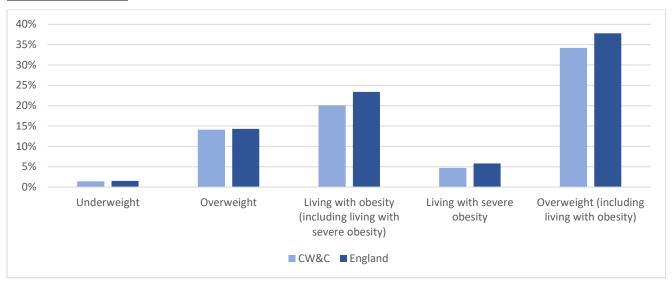
<u>Chart 1: BMI category prevalence for Reception children in Cheshire West and Chester and England, 2021/22.xi</u>



	CW&C	CW&C	CW&C	Change	Cignificance	National	National	National
14/a:ala±				Change	Significance	National	National	Change
Weight	Count	%	Change	Significance	National	%	Change	Significance
				Significant	Statistically			Significant
Underweight	40	1.2%	0.6	increase	Similar	1.2%	0.3%	increase
Healthy				Significant	Significantly			Significant
weight	2625	80.3%	3.7	increase	Higher	76.5%	5.2%	increase
				Significant	Significantly			Significant
Overweight	350	10.7%	-3.0	fall	Lower	12.1%	-1.1%	fall
Living with								
obesity								
(including								
living with				No				
severe				significant	Significantly			Significant
obesity)	260	8.0%	-1.1	change	Lower	10.1%	-4.3%	fall
Living with				No				
severe				significant	Significantly			Significant
obesity	70	2.1%	0.1	change	Lower	2.9%	-1.8%	fall
Overweight								
(including								
living with				Significant	Significantly			Significant
obesity)	610	18.7%	-4.1	fall	Lower	22.3%	-5.5%	fall

Source: National Child Measurement Programme, Public Health Outcome Framework

<u>Chart 2: BMI category prevalence for Year 6 children in Cheshire West and Chester and England, 2021/22.xi</u>



				Change			Nationa	National Change
	CW&C	CW&C	CW&C	Significanc	Significanc	Nationa	I	Significanc
Weight	Count	%	Change	e	e National	1%	Change	e
Underweigh	Count	70	Change	Significant	Statisticall	1 70	Change	Significant
t	50	1.4%	0.4	increase	y Similar	1.5%	0.2%	increase
	30	1.470	0.4	No	y Similar	1.570	0.270	merease
Healthy				significant	Significant			Significant
weight	2275	64.4%	0.3	change	ly Higher	60.8%	2.9%	increase
				No	, ,			
				significant	Statisticall			Significant
Overweight	500	14.1%	-1.4	change	y Similar	14.3%	-1.1%	fall
Living with								
obesity								
(including								
living with				No				
severe				significant	Significant			Significant
obesity)	710	20.1%	0.7	change	ly Lower	23.4%	-2.1%	fall
Living with								
severe				Significant	Significant			Significant
obesity	165	4.7%	0.9	increase	ly Lower	5.8%	-0.6%	fall
Overweight								
(including				No				
living with				significant	Significant			Significant
obesity)	1210	34.2%	-0.7	change	ly Lower	37.8%	-3.2%	fall

Source: National Child Measurement Programme, Public Health Outcome Framework

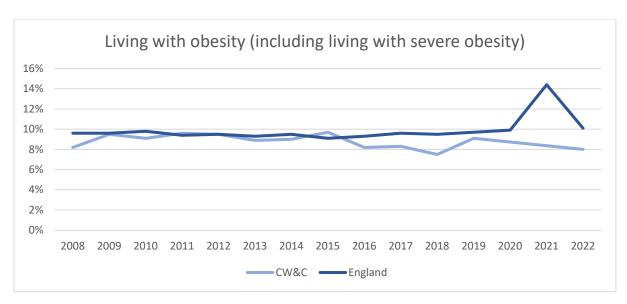
3.2 Time Series

The prevalence of Reception children living with obesity in Cheshire West and Chester saw a 1.1 percentage point drop between 2018/19 (9.1%) and 2021/22 (8.0%). But is still higher than the low of 7.5% recorded in 2017/18 (chart 3)

The prevalence of Year 6 children living with obesity in Cheshire West and Chester has increased from 19.4% in 2018/19 to 20.1% in 2021/22 and is now at its highest since 2011/12 (chart 4).

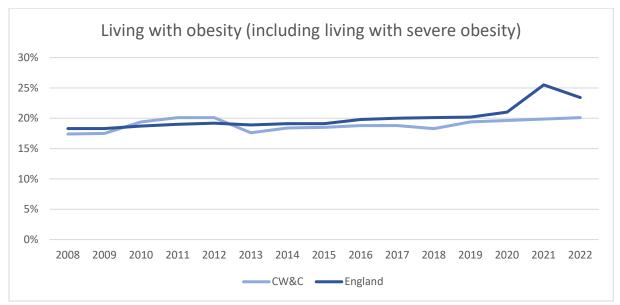
For both age groups, Cheshire West and Chester is significantly below the national average which has seen an increase in the prevalence of children living with obesity compared to pre-pandemic levels.

<u>Chart 3: Obesity prevalence for Reception children in Cheshire West and Chester and England over time.</u>



Source: National Child Measurement Programme, Public Health Outcome Framework





Source: National Child Measurement Programme, Public Health Outcome Framework

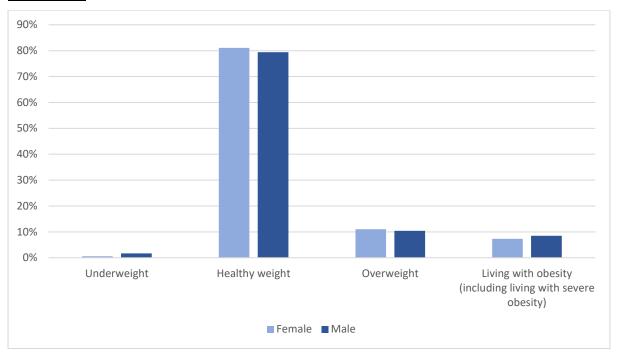
Note: Due to the lack of full measurement recorded for Cheshire West and Chester in 2019/20 and 2020/21 these years have been omitted from the charts above.

The data presented thus far comes from nationally published figures. However further breakdown of data detailed below come from local extract. As this data differs slightly it may not match exactly to the previous figures.

3.3 Sex (local extract)

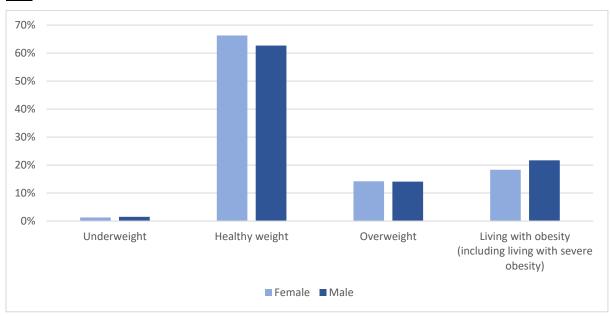
For the time period 2021/22, the difference in the prevalence of children living with obesity between boys and girls is larger in Year 6 than Reception. Charts 5 and 6 show that 8.5% of males and 7.3% of females in Reception were living with obesity or severe obesity in Cheshire West and Chester (compared to 10.3% of males and 9.9% of females in England). 21.7% of males and 18.3% of females in Year 6 were living with obesity (26.4% and 20.4% for England). The pattern follows the national picture with males having higher rates of obesity than females at Year 6. For both age groups females had a higher prevalence of overweight.

<u>Chart 5: BMI category prevalence for Reception children in Cheshire West and Chester split by sex.</u>



Source: National Child Measurement Programme, Local Extract

<u>Chart 6: BMI category prevalence for Year 6 children in Cheshire West and Chester split by sex.</u>



Source: National Child Measurement Programme, Local Extract

3.4 Deprivation (local extract)

There is a strong relationship between deprivation and the percentage of children living with overweight and obesity.

Table 1 shows the percentage of Reception age children living with overweight or obesity when split by the 10 deciles in the Indices of Multiple Deprivation^{xii}. The lower the decile number, the higher the level of deprivation for the LSOAs within that decile. The shading helps to illustrate the higher levels of overweight and obesity for those children living in the more deprived areas, but also shows the reduction in the number of children living with overweight and obesity across the time period (2014 to 2022) for all but decile number five. The average figures at the foot of the table show a clear decrease in the number of children living with overweight and obesity as deprivation levels decrease.

<u>Table 1: Percentage of Reception age children living with overweight, or obesity split by IMD Decile</u>

Year	1	2	3	4	5	6	7	8	9	10	CW&C
2014	33.0%	29.5%	27.4%	25.5%	18.4%	25.0%	24.7%	19.5%	21.3%	20.1%	24.5%
2015	27.4%	31.2%	25.6%	24.6%	18.2%	19.9%	23.0%	22.0%	18.6%	20.7%	23.2%
2016	25.9%	28.3%	24.1%	19.4%	22.4%	20.9%	17.7%	17.5%	16.0%	14.2%	20.5%
2017	27.1%	27.0%	22.6%	18.4%	19.6%	19.3%	16.1%	21.7%	16.7%	17.6%	20.7%
2018	23.2%	22.4%	23.7%	22.4%	27.7%	22.0%	17.5%	15.8%	14.0%	15.9%	19.8%
2019	29.0%	26.7%	26.3%	25.0%	23.5%	22.7%	23.6%	20.2%	18.1%	15.7%	22.7%
2022	25.6%	25.7%	24.6%	22.2%	19.0%	16.7%	16.6%	12.9%	13.8%	13.5%	18.5%
Average	27.3%	27.3%	24.8%	22.5%	21.3%	21.0%	19.9%	18.6%	16.8%	16.9%	21.4%

Source: National Child Measurement Programme, Local Extract

Table 2 shows the percentage of Reception age children living with obesity (including severe obesity) when split by the same 10 deciles in the indices of Multiple Deprivation. When looking at the total figures across each of the 10 deciles, there is a steady increase in the percentage of children living with obesity as deprivation levels increase. From both 2014 and 2019, there has been a slight reduction in the percentage of children in deciles one and two living with obesity but an increase in decile three. The shading on the table illustrates a clear correlation between deprivation and the percentage of children living with obesity.

<u>Table 2: Percentage of Reception age children living with obesity (including severe obesity) split by IMD Decile</u>

Year	1	2	3	4	5	6	7	8	9	10	CW&C
2014	13.6%	12.1%	10.7%	11.4%	6.3%	6.9%	9.5%	6.6%	9.0%	5.0%	9.1%
2015	14.6%	13.3%	11.4%	8.1%	7.8%	8.0%	8.7%	9.0%	7.7%	8.2%	9.8%
2016	11.1%	11.8%	10.8%	11.0%	7.5%	8.6%	6.3%	5.9%	4.2%	6.1%	8.2%
2017	11.7%	12.9%	9.4%	5.5%	9.6%	7.0%	6.2%	10.0%	5.0%	6.1%	8.3%
2018	9.7%	8.9%	11.4%	9.3%	9.4%	8.4%	6.8%	6.3%	4.1%	4.7%	7.6%
2019	13.0%	12.5%	11.3%	10.4%	9.7%	12.5%	7.9%	6.7%	5.2%	4.7%	9.0%
2022	11.7%	10.0%	13.1%	8.5%	7.0%	6.8%	7.8%	5.3%	5.2%	5.1%	7.9%
Average	12.2%	11.7%	11.1%	9.2%	8.2%	8.3%	7.6%	7.1%	5.7%	5.7%	8.6%

Source: National Child Measurement Programme, Local Extract

Table 3 shows the percentage of Year 6 age children living with overweight or obesity when split by the 10 deciles in the Indices of Multiple Deprivation. As with the previous table, the shading illustrates the general increase in rates of overweight and obesity as deprivation rises. Overall overweight and obesity levels have slightly increased between 2014 and 2022 (from 33.7% to 34.1%), when looking at the data across the 10 deciles, the figures have increased for those children living in LSOAs within three of the four most deprived deciles, whilst the figures have decreased for those living in LSOAs within the four least deprives deciles. There has been a very large increase to 48.6% for those children living in decile one.

<u>Table 3: Percentage of Year 6 age children living with overweight, or obesity split by IMD</u>

Decile

Year	1	2	3	4	5	6	7	8	9	10	CW&C
2014	38.9%	42.9%	36.7%	32.3%	32.8%	34.6%	31.1%	33.6%	29.3%	29.2%	33.7%
2015	42.2%	40.2%	38.6%	38.7%	31.6%	30.2%	25.8%	26.5%	33.7%	24.4%	32.3%
2016	42.3%	42.1%	37.7%	33.2%	34.6%	36.3%	26.3%	31.2%	28.8%	29.8%	33.7%
2017	45.1%	40.8%	39.4%	33.2%	37.1%	36.6%	27.5%	28.6%	27.1%	22.8%	32.8%
2018	42.1%	40.9%	33.1%	36.5%	36.4%	34.9%	28.5%	28.8%	29.0%	22.1%	31.9%
2019	40.4%	45.6%	37.1%	34.5%	38.1%	37.0%	36.5%	32.8%	26.1%	29.0%	35.0%
2022	48.6%	41.0%	37.7%	37.8%	32.0%	35.6%	29.0%	30.7%	26.4%	27.8%	34.1%
Average	42.9%	41.9%	37.2%	35.2%	34.8%	35.1%	29.4%	20.3%	28.6%	26.4%	33.4%

Source: National Child Measurement Programme, Local Extract

Table 4 shows that for Year 6 there is a higher proportion of children living with obesity than are classed as overweight. These table show that within the overweight (including living with obesity) category, more children are classed as living with obesity than are classes as overweight. The inequalities at decile level are also far more pronounced among children who the living with obesity, seemingly driving the inequality seen in these charts. The 'deprivation gap' over time has increased by 11.2 percentage points.

<u>Table 4: Percentage of Year 6 age children living with obesity (including severe obesity)</u> <u>split by IMD Decile</u>

Year	1	2	3	4	5	6	7	8	9	10	CW&C
2014	24.6%	28.6%	23.7%	19.6%	20.4%	16.9%	15.0%	16.8%	14.9%	12.2%	18.5%
2015	29.6%	25.1%	23.5%	24.5%	19.7%	18.5%	13.0%	13.5%	17.5%	10.3%	18.5%
2016	30.0%	27.2%	20.4%	17.9%	16.6%	20.8%	14.0%	18.7%	14.5%	13.3%	18.8%
2017	28.2%	25.1%	23.5%	20.0%	24.2%	19.1%	13.9%	15.7%	14.7%	12.7%	19.0%
2018	27.4%	22.7%	23.3%	24.9%	21.0%	18.4%	15.1%	15.8%	16.6%	10.1%	18.4%
2019	25.5%	28.6%	23.2%	20.9%	18.6%	20.4%	18.0%	16.7%	12.8%	14.5%	19.4%
2022	32.3%	27.1%	24.9%	24.4%	18.0%	19.7%	16.4%	18.4%	10.0%	14.0%	20.0%
Average	28.2%	26.3%	23.2%	21.8%	19.7%	19.2%	15.2%	16.5%	14.5%	12.5%	18.9%

Source: National Child Measurement Programme, Local Extract

3.5 How Cheshire West and Chester compares nationally

Chart 7 shows that the Cheshire West and Chester figure for overweight and obesity for 4–5-year-olds in 2021-22 (18.7%) is significantly lower than the England average. The data for 2021-22 is the lowest recorded since the National Child Measurement Programme began in 2007-8. The local figures have fluctuated far more over this time period than the England average, as illustrated by the chart below.

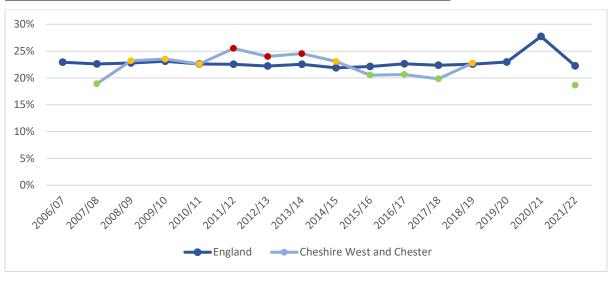


Chart 7: Reception prevalence of overweight and obesity over time

OBetter 95% OSimilar OWorse 95%

Source: National Child Measurement Programme, Public Health Outcome Framework

Chart 8 shows that the Cheshire West and Chester figure for overweight and obesity for 10–11-year-olds in 2021-22 (34.2%) is significantly lower than the England average of 37.8%. The local figures have remained similar to the England average over time.

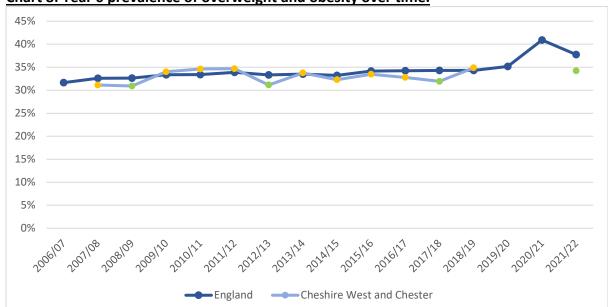


Chart 8: Year 6 prevalence of overweight and obesity over time.

Source: National Child Measurement Programme, Public Health Outcome Framework

The illustration below shows the trajectory for children born in 2021. If trends continue, for children born in 2021, 22% will have overweight or obesity by the time they start school. By age 65, only 18% will be a healthy weight^{xiii}.



Trajectory for children born in 2021

Source: Broken Plate Report, The Food Foundation

It is predicted that obesity among the current cohort of children will generate up to £74 billion in NHS costs over the course of their lifetime and £405 billion for wider society through lost productivity and sickness.xiv

3.6 Maternal obesity

Maternal obesity and gestational weight gain are associated with childhood obesity, and this effect extends into adulthood. Childhood obesity in turn increases chances of later life obesity, and therefore increased risk of type 2 diabetes, and cardiovascular disease in the offspring^{xv}. Data from the Countess of Chester NHS Trust shows that compared to other NHS Trusts in the North West Coast, a higher-than-average number of women attending their booking in appointment were classified as living with obesity (data from August 2022).

Data for 2017 as shown in Chart 9 for Cheshire West and Chester residents at delivery (Note: data was not collected for Mid Cheshire Hospital Foundation Trust and therefore this data is primarily for deliveries at the Countess of Chester Hospital. The 'unknown' i.e. MCHFT data has been removed from the chart) shows that figures for each of the weight status categories for Cheshire West and Chester is similar to the England average xvi. What is clear both locally and for England is that over 50% of the women from whom BMI information was collected were above a healthy weight at delivery.

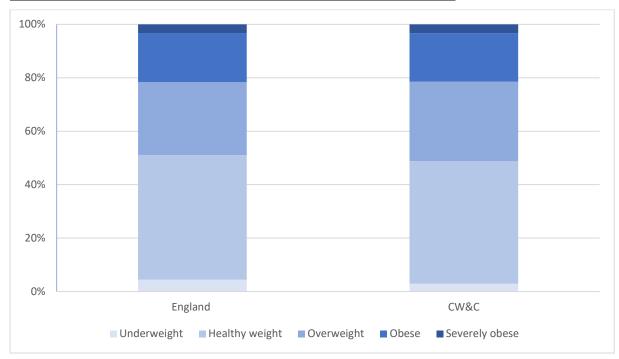


Chart 9: Maternal BMI at delivery 2017, Cheshire West and Chester

Source: North West Coasts Maternity Data

Further to maternal weight status, from an epigenetic perspective there is evidence that the weight status of the father at the time of conception may also have an impact on the offspring xviixviii.

4. The local policy context, services and support for children and young people to achieve and maintain a healthy weight in Cheshire West and Chester

Increasing the percentage of children and young people who are a healthy weight is a priority at place as a defined action in the West Cheshire Place Plan^{xix}.

In February 2019, Cheshire West and Chester Council adopted the Local Authority Declaration on Healthy Weight. The declaration set out a series of commitments to ensure that promoting healthy weight was included within council policy and practice. Following the adoption of the declaration, the public health team worked with Food Active and members of the Eat Well Be Active Reference Group to develop a Partner Pledge. The pledge included its own set of commitments, supporting organisations to promote healthy weight within their own service which also supporting the local authority's declaration.

4.1 Services

Nationally it is recognised that the services available to support people to achieve a healthy weight cover four tiers (or levels).

Tier 1 – Universal obesity prevention services – Starting Well service (breast feeding and weaning), education, healthy eating (including cookery classes), physical activity.

Tier 2 – Lifestyle services – multidisciplinary team delivering integrated diet, physical activity and behavioural programmes to children and families who are overweight or obese using group and/or one-to-one support.

Tier 3 – Specialist weight management services – clinical treatments provided by specialist multidisciplinary services for children with severe or complex obesity (including comorbidities).

Tier 4 – Pharmacological or surgical treatments for obesity – Bariatric surgery is available in exceptional circumstances through specialist commissioning via NHS England for children with severe and complex obesity who are 12 years and over.

4.1.1 Tier 1

In Cheshire West and Chester there is a wide-ranging Tier 1 offer focussing primarily on prevention. This work is delivered by partners across the borough and much of this work feeds in to the Eat Well Be Active Reference Group. A recent restructure of this Group has included the formation of four strategic sub-groups to drive forward actions and progress partnership working across four themes — eating well, being active, wider determinants of healthy weight and weight management and support.

Much of the Tier 1 offer for children and young people happens in school or in the community. These take various formats including increasing physical activity and providing healthy balanced meal options. Along with local authority-led programmes of work to support active travel and healthier environments through spatial planning – reducing proliferation of hot food takeaways and increasing access to greenspace and play areas.

The National Child Measurement Programme is carried out annually by the 0-19 Starting Well Service who have strong relationships with the schools in the borough. The 0-19 Starting Well team offer NCMP follow up to evidence based resources, as well as school-based follow-ups. The Children's Centre core offer includes groups within centres that include nutrition, with activities such as cooking on a budget. These activities are targeted to the 30% most deprived areas within the borough.

The 0-19 Starting Well Service includes brief interventions, Make Every Contact Count (MECC) in relation to advice and guidance for healthy weight across core contacts and

throughout the life course - from baby open advise clinic, and throughout ad hoc contacts with families and young people and parents. This includes the breastfeeding offer, weaning groups and 1-2-1 weaning support.

The service also offers High School Drop in – with individual support for young people both for underweight and overweight advice and guidance, developing autonomy and self-efficacy for young people. Referrals on to community paediatrics as appropriate, based on clinical judgement.

Koala North West provides a range of services for families with children aged 0-11 years. Currently funded in Ellesmere Port to deliver their Starting Young/Healthy Lifestyles Project, this programme is open to any family with a child aged 0-5 years old living in Ellesmere Port and supports parents and carers in establishing a healthy eating and active way of life for the whole family. Encouraging children and promoting healthy habits for life. Koala cover a range of related topics with families including: Making healthy choices; How to exercise with little ones; Cooking family meals; How small changes can make a big difference. Koala also provide healthy food and cooking equipment when families need it.

A number of the Primary Care Networks employ a dietician/nutritionist as part of the Additional Roles Reimbursement Scheme (ARRS). Whilst they are primarily in post to support adults, several will provide healthy eating and physical activity advise to families.

Noting the sensitivities many people face when talking about excess weight with families, along with a motivation to reduce weight stigma, 'Why Weight to Talk: How to have positive conversations about weight' training has been developed with colleagues from Food Active. The training has been designed to encourage and empower colleagues to have positive conversations with families about weight. The 90-minute online course considers the wider determinants to excess weight, trauma and Adverse Childhood Experiences, along with support in giving brief advice. The training has been delivered for 12-months and 170 professionals have been trained to date.

4.1.2 Tier 2

In terms of a Tier 2 offer, the local authority with partners is currently piloting HENRY^{xx}, a family-based programme aimed at supporting healthy behaviours and healthy weight. 15 practitioners trained to deliver the HENRY programme from four organisations. There is currently no universal Tier 2 weight management service for children and young people in Cheshire West and Chester.

4.1.3 Tier 3 and 4

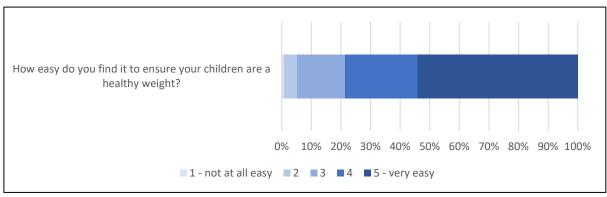
A Tier 3 service is offered by Alder Hey with hub sites locally to support children and young people living with severe obesity and a co-morbidity. The Complications of Excess Weight (CEW) clinics accept referrals from secondary care; the patient must be within the age of two and 16, with a BMI above the 99.6th percentile and with a co-morbidity. Currently there is no tier 4 offer for children and young people.

5. Lived experience

Lived experience has been captured through surveys with parents and carers. It is noted that the lived experience element of this chapter is limited.

5.1 Holiday Activity and Food Programme Survey (2023)

Chart 10: Holiday Activity and Food Programme Survey



Source: Holiday Activity and Food Programme Survey 2023

In a survey of 135 parents and carers of school age children, 54% said it was 'very easy' to ensure their children are a healthy weight. Out of the remaining 46%, 24% said it was 'easy', this left 22% who said it wasn't easy or neither easy nor not easy. 24 of the respondents also left a comment to help to explain their answer. Of those who responded 4 or 5 ('quite easy' or 'very easy' to ensure child is a healthy weight), the responses were primarily in relation to the children having a healthy balanced diet and active lifestyle. Those parents and carers who responded 3 (neither easy nor not easy), talked about challenges due to the rising cost of living and sensory issues which may contribute to food aversions.

It is worth noting that as obesity is becoming more commonplace at younger ages, parents may have trouble spotting the signs in their own children. One UK study found while few parents overestimated the weight of their child, a third believed them to be a healthy weight when they were overweight according to commonly used growth reference standards^{xxi}.

6. Identifying needs and gaps

Whilst rates of overweight (including obesity) have reduced for Reception aged children, almost a quarter of our children are starting primary school with excess weight. Also, data shows a rise in the number of Reception age children living with obesity meaning that fewer children are in the overweight range, but more are living with obesity (including severe obesity). As highlighted earlier in this chapter the causes of obesity are complex and require a systems approach, influencing across multiple settings and taking a multi-pronged method. We need to work with families and early years settings from pre-conception to prevent excess weight in Reception age children, forming good habits and behaviours early in life.

Whilst children are measured at set periods in their early life, we rely on the National Child Measurement programme as the most comprehensive and robust data set. However, understanding the trajectory for children from birth to Reception age by effectively collating and recording weight and height at birth and at one and two-year checks in a way which can

be collated and logged against a child's record would help to inform targeted interventions and support in the early years.

There is a stark increase in overweight (including obesity) data from Reception to Year 6, this is more obvious for children and young people living in the most deprived neighbourhoods. It would be useful to understand the weight status changes in cohorts of children from Reception to Year 6. Action must be taken to support healthy behaviours throughout primary school years both in school, at home and in communities. A proportionate universalism approach needs to be taken to ensure more support is available to those who need it most. Healthy weight needs to be a priority for all.

We need to understand the impact that deprivation has on overweight and obesity, particularly looking at the deciles with the highest percentages and understanding what can be done to level-up.

However, it is important to understand the potential negative impact of weighing and measuring children as part of the National Child Measurement Programme, and to mitigate against any harm.

Overweight and obesity does tend to run in families. The reasons for this are complex, ranging from genetics to habits and circumstance. There is a need to work with children, young people and families to understand what they feel are the barriers and facilitators to being a healthy weight. We need to understand what would work for them, both in terms of obesity prevention and also support in reaching and maintaining a healthy weight. Similarly, we need to work with people from different places within the borough, with different challenges and opportunities to understand how these differ depending on where you live and the circumstances in which you are in.

There is a need to work with professionals to understand what they view as the challenges and opportunities for children and young people to be a healthy weight in the borough. Some of this work has been undertaken through systems mapping workshops.

There is a data gap in terms of the BMI on delivery data for MCHFT. It would be helpful to have this data for all Cheshire West and Chester residents at booking/ delivery.

Finally, it is essential to challenge and reduce weight stigma, address barriers to accessing a healthy, balanced diet and adequate physical activity and increase awareness of the wider determinants to unhealthy weight.

7. Evidence of what works

7.1 National policy

Addressing childhood obesity has received a lot of attention and resource in recent years, with childhood obesity strategies and plans from National Government. This has included fiscal and industry measures such as the Sugary Drinks Industry Levy, the national Sugar Reduction Programme, calories labelling on restaurant menus and a number of plans to curb the marketing of less healthy food and drink products to children and young people. Whilst some progress has been made on the actions promised in the National Obesity Strategy, such as the launch of the Better Health Campaign, mandatory calorie labelling in the out of home sector and product placement restriction for les healthy items, there has been delays on restricting volume promotions and the 9pm watershed.

7.2 NICE Guidelines

In 2015, NICE published a series of quality statements covering a range of approaches at a population level to prevent children and young people aged under 18 years from becoming overweight or living with obesity. It includes interventions for lifestyle weight management. These statements are particularly relevant to local authorities, NHS organisations, schools and providers of lifestyle weight management programmes.

- 1. Children and young people, and their parents or carers, using vending machines in local authority and NHS venues can buy healthy food and drink options.
- 2. Children and young people, and their parents or carers, see details of nutritional information on menus at local authority and NHS venues.
- 3. Children and young people, and their parents or carers, see healthy food and drink choices displayed prominently in local authority and NHS venues.
- 4. Children and young people, and their parents or carers, have access to a publicly available up-to-date list of local lifestyle weight management programmes.
- 5. Children and young people identified as being overweight or obese, and their parents or carers as appropriate, are given information about local lifestyle weight management programmes.
- 6. Family members or carers of children and young people are invited to attend lifestyle weight management programmes, regardless of their weight.
- 7. Children and young people, and their parents or carers, can access data on attendance, outcomes and the views of participants and staff from lifestyle weight management programmes.
- 8. Reducing sedentary behaviour.

Latest NICE Guidance (updated in July 2023) reviewed clinical guidelines for 'Identifying and assessing overweight, obesity and central adiposity in children and young people'. The committee agreed that:

- studies showed that BMI, waist circumference and waist-to-height ratio could all be used to accurately predict or identify weight-related conditions when they were adjusted for age and sex.
- BMI is a useful practical measure for estimating and defining overweight and obesity. The committee also noted that waist-to-height ratio is a truer estimate of central adiposity, which is related to health risks.
- special growth charts may be needed when assessing children and young people with cognitive and physical disabilities, including those with learning disabilities.
- evidence for using waist-to-height ratio as a practical estimate for central adiposity to assess and predict health risk in children and young people was not as good as the evidence for adults.
- it was important to use clinical judgement when interpreting BMI below the 91st centile, especially because children and young people in the healthy weight category may still have central adiposity.
- that it is important to ask for permission from children, young people, and their parents or carers (if appropriate) before starting any discussions linked to overweight, obesity or central adiposity.
- it was very important to be ensure sensitive and positive discussions because the stigma associated with obesity can affect a child or young person's mental and physical health.

7.3 NHS England: Healthier Weight Competency Framework^{xxii}

The emphasis of the healthier weight competency framework is on prevention of excess weight and early intervention, rather than treatment. It is grounded in a person-centered approach and aligns with making every contact count.

The framework was designed to provide the health and care workforce with guidance in promoting a healthier weight. This includes frontline staff, managers, commissioners and leaders of teams, services and organisations, in different roles and settings.

The framework can be used by staff working with any community or group within the population, including children, adults, pregnant women, care givers and vulnerable groups.

The framework describes:

- competencies frontline staff need to engage with people about healthier weight in an informed and sensitive way.
- competencies that managers, commissioners and leaders need, to facilitate an informed and sensitive system wide approach to a healthier weight.

7.4 Local authority good practice

7.4.1 Public Health England Research: learning from local authorities with downward trends in childhood obesity

At a local level, many councils, universities and third sector organisations have invested time, funding and resource in a range of programmes and interventions to support families, children and young people to reach and maintain a healthy weight. In 2020, Public Health England reviewed what was working in achieving a downwards trend in local authorities across England and identified 13 common themes or strategies that local authorities achieving downward trends were using XXIIII. Ranked in order of commonality they included:

- Engagement with the NCMP
- Working with schools and taking a whole-schools approach
- Interventions in the early years
- Linked across family weight management programmes, the NCMP and schools
- Broader partnerships including academic links
- Having a published childhood obesity strategy
- Increasing physical activity, including active travel
- Focus on food

7.4.2 How can local authorities reduce obesity? Insights from National Institute for Health and Care Research (NIHR)

The NIHR invests more than £1bn a year in research to improve the health and wellbeing of the nation. This review draws on the breadth of NIHR research relevant to obesity, conversations with staff at local councils and at national organisations, as well as feedback from a group of practitioners, researchers and members of the public. Together they have helped to identify evidence-based actions that local authorities, working with their local partners, can take to reduce obesity in their communities.

Investing in active travel, infrastructure, community sport and physical activity

- Investing in active travel and increasing access to public transport should be key elements of a systems-wide strategy that aligns with local sustainability and carbon reduction plans.
- Changes to the built environment, including access to green spaces, can increase physical activity and improve environmental sustainability.
- Free access to public sport and leisure services can help people to be more physically active, but the picture is mixed over its effectiveness, and whether it reaches those most in need.

Influencing behaviour from childhood

- Programmes aimed at preventing obesity in children and young people in the community can be effective, but the impact varies across age groups.
- Interventions in schools to increase physical fitness or alter dietary habits have achieved limited results; most NIHR-funded interventions in UK schools have not been effective.

Supporting people living with obesity

- Weight management programmes for people living with overweight or obesity are part of a broader strategy to tackle obesity.

Strategies that reflect societal shifts, e.g., in the workplace

- Local authorities are expected by NICE to be exemplars of workplaces that prevent and manage obesity; however with a move to hybrid working, local authorities may want to direct attention away from office-based workers.

Reducing excess calorie consumption

- Local authorities can take action on the food environment; targeting out of home foods and restricting advertising of high fat, salt and sugar products could reduce excess calorie consumption.

Local actions to support system-wide approaches

- More research is needed to assess local authority actions as part of whole system approaches to obesity.

7.4.3 Using the planning system

Evidence clearly points to the quality of the local environment in which people live, play and work as a contributing factor to excess calorie consumption and inactive lifestyles. The planning and design of the environment can help address obesity while contributing positively to sustainability and a healthy lifestyle. The environment can promote physical activity in daily lives, enable active travel to get to work, school or leisure activities, and help people access and choose healthier food options on our high streets, around schools and in our town centres. The planning system has a range of powers and levers to implement effective change at local levels. All local authorities are encouraged to consider how they can best use the planning system to improve their communities' health and reduce health inequalities^{xxiv}.

7.4.4 Taking a whole systems approach

A whole systems approach to obesity has been developed and is available to local places both through Food Active's Healthy Weight Declaration and Public Health England's Whole System's Approach to Obesity. Councils are uniquely placed to deliver whole-system approaches to tackling health inequalities at the local level, by bringing together the range of services and support that are needed to address the underlying causes of poor health.

7.4.5 Using the NCMP to better support families

The NCMP is a valuable data source of information to gain an indication of the trends in children's weight status across England. Whilst not mandated, many local authorities send out results letters to parents and carers detailing which weight category their child was measured and weight as being in on the day of measurement. A number of local authorities have reviewed the NCMP communications, including the results letter and are in the process of evaluating effectiveness.

An example from Kent Community Health NHS Foundation Trust aimed to improve the client (parent) experience of the NCMP process delivered by the school health service in 2020/21. The work resulted in reduced number of complaints and an increased uptake of the school Tier 1 Healthy Weight Package of Care (POC) for families of children identified with a BMI >98th centile, particularly those in the reception year. As part of this approach, the letter was changed to avoid the use of stigmatising words such as 'overweight' and 'obese'. Staff were trained to help improve confidence in discussing weight with parents, a follow up call 'script' was improved, and a three month follow up call offered. The results were positive with 100% of parents feeling respected and listened to and had a positive view of the School Health team; 100% of parents preferred the letter not stating 'overweight or obese'. Parents still experienced negative emotions: feelings of shock or denial associated with the letters and proactive calls, but also reported a feeling of relief at being able to discuss this with someone. Most importantly, all parents reported that they had made some behaviour changes since receiving the proactive call.

7.4.6 A compassionate/ health gains approach

A number of local authorities have taken a health gains / compassionate approach to healthy weight, removing the focus on weight and instead concentrating on changing habits and behaviours to improve diet, fitness and other lifestyle factors such as stress and sleep*xxv.

8. Conclusion

Despite the reduction in overweight and obesity of Cheshire West and Chester children in Reception age children, the increase in overweight and obesity for Year 6 children is a concern. Further to this, more of our Year 6 children are now classed as living with obesity than overweight, showing a move to increased weight for this age group.

Weight is a complex and emotive subject with multiple drivers. The large increase in overweight and obesity from Reception to Year 6 highlights the need to take a whole-system approach to support children to eat well and be active. The fact that almost a quarter of our children start school with excess weight shows a need to work with families and early years settings to embed healthy behaviours during the first years of life.

Whilst we have insightful data available for Reception and Year 6 pupils each year (omitting 2019/20 and 2020/21 which were incomplete due to the COVID-19 pandemic), it is important that this is used in a way which is meaningful and non-stigmatising.

9. Recommendations

9.1 Take a whole-systems approach to healthy weight; making healthy weight everyone's business by supporting environments which are conducive to eating well and being active.

- Use the opportunity of the new Family Hub model to ensure healthy weight support is embedded in the service offer in line with the minimum expectations set out in the guidance.
- Use the momentum and visibility of the Sustainable Food Place accreditation and role of the West Cheshire Food Partnership to improve the food offer to residents in the borough.
- Use the influence of Brio and other partners to improve the physical activity offer to residents in the borough.
- Bring together partners as part of the weight management sub-group of Eat Well Be Active to drive work forwards to support healthy weight prevention and provision; review the existing weight management support in the borough, to strengthen the offer and provide targeted support where required.
- Continue to support families in or at risk of food insecurity through the Welcome Network; understand the challenges faced by many and support appropriately and with dignity by working with people with lived experience. Increase access to healthy food through increasing uptake of financial entitlements for low-income families, for example Healthy Start, Benefits-related Free School Meals, Holiday Activities and Food Programme.
- As part of a wider approach, lift people out of poverty by supporting fair employment and access to benefits.
- Work with and skill up early years professionals through the early years provider network; sharing evidence based advice and good practice around eating well and being active in the early years.
- Work with schools to support them to take a whole-school approach through the 'Pledge for a healthy and active future'; use the NCMP and other local data sources to provide schools with targeted support.
- Create more active, playful streets and public spaces that are safe by working closely
 with departments across the local authority; consider the 20 minute neighbourhood
 model which focuses on having access to key amenities, shops and active transport
 within communities.
- Remove unhealthy marketing that influences what children eat on premises where the council has control, e.g., council buildings and leisure centres; support other

organisations to take a similar approach, ensuring the food and drink offered at events is healthier. Roll out the council's catering and procurement guidance to support anchor institutions and to support healthier and more sustainable catering at local events, particularly those on council land

- Continue to work with the local authority planning team and potential applicants for hot food outlets to ensure they are supportive, and not detrimental, to the local population. Work with fast-food businesses to support them to provide healthier food and drink options.
- Review the council's approach to healthier environments, ensuring opportunities to travel actively and to access an affordable, healthy and sustainable diet are considered in all relevant plans, for example the Local Plan refresh.
- Remove weight stigma for all practice, taking a compassionate approach to weight. Work with professionals to take a compassionate approach to weight, providing training for all professionals working with families.
- 9.2 Take a whole-family approach to supporting healthy weight
- Support women and their partners to enter pregnancy at a healthy weight and support families to adopt and maintain healthy lifestyle behaviours.
- Understand the challenges that some families face and offer advice and support which is relevant and helpful.
- Support women who are able to breastfeed to do so for longer; provide clear and consistent advice on first solid foods
- 9.3 Use the data available to understand how best families, schools, GPs and communities can help their children and young people to reach and maintain a healthy weight.
- Use the NCMP data to identify vulnerable groups within the cohort and specifically look for the reasons why there is an increase in obesity in year 6.
- Ensure this is done in a way which is non-judgemental, stigmatising or harmful and provides families with clear joined-up messages on how to support their family to improve habits and behaviours to support a healthy lifestyle.

10. References

ⁱ Frontier Economics., 2022. Estimating the Full Costs of Obesity: A Report for Novo Nordisk. ⁱⁱ Faith, M.S. and Kral, T.V., 2006. Social environmental and genetic influences on obesity and obesity-promoting behaviors: fostering research integration. In *Genes, behavior, and the social environment: Moving beyond the nature/nurture debate*. National Academies Press (US).

- xvii Ornellas, F., Carapeto, P.V., Mandarim-de-Lacerda, C.A. and Aguila, M.B., 2017. Obese fathers lead to an altered metabolism and obesity in their children in adulthood: review of experimental and human studies☆. *Jornal de pediatria*, 93, pp.551-559.
- xviii Soubry, A., Schildkraut, J.M., Murtha, A., Wang, F., Huang, Z., Bernal, A., Kurtzberg, J., Jirtle, R.L., Murphy, S.K. and Hoyo, C., 2013. Paternal obesity is associated with IGF2hypomethylation in newborns: results from a Newborn Epigenetics Study (NEST) cohort. *BMC medicine*, 11(1), pp.1-10.

iii Redsell, S.A., Atkinson, P., Nathan, D., Siriwardena, A.N., Swift, J.A. and Glazebrook, C., 2010. Parents' beliefs about appropriate infant size, growth and feeding behaviour: implications for the prevention of childhood obesity. *BMC public health*, 10(1), pp.1-10.

iv Harvard T.H. Chan School of Public Health Prenatal and Early Life Influences | Obesity Prevention Source | Harvard T.H. Chan School of Public Health

^v Marmot, M., 2013. Fair society, healthy lives. Fair society, healthy lives, pp.1-74.

vi SACN statement on processed foods and health - summary report - GOV.UK (www.gov.uk).

vii Thomas, F., Thomas, C., Hooper, L., Rosenberg, G., Vohra, J. and Bauld, L., 2019. Area deprivation, screen time and consumption of food and drink high in fat salt and sugar (HFSS) in young people: results from a cross-sectional study in the UK. *BMJ open*, *9*(6).

viii Food Active: Weight Stigma Resource Hub

ix Christensen, S., 2018. Weight bias and stigma in children. *Journal of Pediatric Surgical Nursing*, 7(3), pp.72-74.

^{*} National Child Measurement Programme: operational guidance 2023 - GOV.UK (www.gov.uk).

xi OHID Public health profiles - Obesity (phe.org.uk).

xii English indices of deprivation 2019 - GOV.UK

xiii The Food Foundation., 2021. The Critical Importance of Early Years Nutrition in Prevention of Childhood Obesity..

xiv IPPR, 2021. Making A Giant Leap On Childhood Health.

^{xv} Santangeli, L., Sattar, N. and Huda, S.S., 2015. Impact of maternal obesity on perinatal and childhood outcomes. *Best Practice & Research Clinical Obstetrics & Gynaecology*, *29*(3), pp.438-448.

^{xvi} Health of women before and during pregnancy, local demographic and risk factors investigation tool.

xix Cheshire West Place Plan | Cheshire West and Chester Council.

xx Henry: Healthy Start, Brighter Future

^{xxi} Black, J.A., Park, M., Gregson, J., Falconer, C.L., White, B., Kessel, A.S., Saxena, S., Viner, R.M. and Kinra, S., 2015. Child obesity cut-offs as derived from parental perceptions: cross-sectional questionnaire. *British Journal of General Practice*, *65*(633), pp.e234-e239.

xxii Healthier Weight Competency Framework - elearning for healthcare (e-lfh.org.uk).

xxiii Executive summary: learning from local authorities with downward trends in childhood obesity - GOV.UK

xxiv Using the planning system to promote healthy weight environments (publishing.service.gov.uk).

xxv Food Active., 2021. Weight Stigma, Doncaster's Compassionate Approach to Weight.