Health Behaviours in Suffolk

Health Needs Assessment: adult and child weight management

June 2022

Contents

Note

Please note that this report is part of the wider Health Behaviour Health Needs Assessment (HNA) for Suffolk. For other topic areas, please see the Healthy Suffolk website.

COVID-19 and data limitations

The data within this report mostly cites 2019/20 data sets and therefore does not examine the impact of COVID-19 on service provision, health behaviours or outcomes. Rather, the impact of COVID-19 is currently being explored through interviews with stakeholders and service users throughout Suffolk, which are not included in this report.

Please note that report was written in October 2021 and published in May 2022. At the time of publication, 2020/21 data has been published. Therefore, future work streams related to health behaviour services will reflect new data sources.

Quality and Outcome Framework data

The adult weight management data and smoking prevalence data relate to Quality and Outcomes Framework (QOF) data provided by GP practices. 2020/21 QOF data is now available on the Office for Health Improvement and Disparities (OHID) Fingertips website. As this report was written in 2021 and published in 2022, the QOF data within this report refers to 2019/20.

National Childhood Measurement Programme (NCMP)

COVID-19 affected NCMP data collection for the 2019/20 reporting period. Firstly, the Reception Year total for number children measured was 4,155 compared to the previous year total of 7,489, a 22.2% reduction. While Year 6 data collection was not significantly affected due to the majority of measurements completed by December 2019 (7,387 in 2018/19 compared to 7,250 in 2019/20 – a reduction of 4.2%).

Recommendations

Adult Weight Management

- **Continue to develop and implement the system-wide strategy for reducing overweight and obesity in adults, building upon the 2021 publication of 'Tackling Obesity in Suffolk'.**
  This strategy should acknowledge the importance of place, and utilise local understanding of prevalence, deprivation, and the wider social and environmental influences on weight to inform universal and place-based approaches to weight management.

- **Conduct targeted engagement with Suffolk residents to inform the development of adult weight management services, with a focus on broadening the options for support.**
  Activity and outcome data from current weight management services show good outcomes for those completing programmes, however a large proportion of people are non-completers. Alternative programmes of support will be needed to meet the diverse needs of different population groups.

- **Continue to commission enhanced weight management services for target population groups.**
  Data shows that for those that complete enhanced weight management programmes, they achieve good outcomes. However, many participants drop-out early. Further analysis is required to understand who within the population these enhanced programmes work for, to better inform effective targeting of resources to these groups.

- **Develop a cross-organisational communications strategy to support the local implementation of national campaign materials to maximise reach and awareness of health promotion messaging around weight management**

- **Deliver a programme of training and support to the primary care workforce, targeting GP practices highlighted to be in priority areas.**
  Partnership working should be prioritised to ensure alignment between ICS workforce development plans and priorities within local structures such as primary care networks and integrated neighbourhood teams.

Child Weight Management

- **Build on the Whole System Approach to childhood obesity using learning from the two Suffolk pilot areas**.
  Ensure the recommendations included in the Suffolk Childhood Obesity Strategy are considered and review progress in 2023.

- **Focus on vulnerable families and areas of higher deprivation**
  Use data from the National Child Measurement Programme (NCMP) to target schools and early year settings based on their prevalence of obesity and deprivation level.

- **Raise awareness of child healthy weight through the delivery of a cross-organisational campaign aimed at tackling childhood obesity**

- **Deliver targeted engagement and co-production activities with local families to inform the future design and delivery of support around child weight management**

Completion rates for current child weight management programmes are low. Engagement activities should aim to understand the barriers to healthy lifestyles, and work with families to identify how support can be delivered to reduce these barriers and improve access to support within local communities.

- Support community and voluntary services established in Suffolk to increase their capacity in supporting families who are already engaged in their service.
  Maximising the potential of the existing relationships local organisations have with Suffolk families can help to improve the support for those children and families that find it difficult to engage in more formalised weight management services.

- Ensure future models of support can adapt to the needs of families' and include provision around diet, physical activity, and behaviour change.
  Consideration should be made as to how we can build upon and the work of current services rather than duplicating current options for families of support.

Why it matters

The Global Burden of Disease Study identified that poor diet was responsible for 11 million deaths globally in 2017, with cardiovascular disease being the leading cause of diet-related deaths, followed by cancers and Type 2 diabetes[1]. Dietary factors have been found to be associated with a substantial proportion of deaths from heart disease, stroke, and Type 2 diabetes occurring in UK adults[2].

In the UK, poor diets and overweight/obesity are closely linked. In 2019 most adults in England were either overweight or obese (68% of men and 60% of women)[3]. In 2018/19, 29% of children aged between 2 and 15 years were either overweight or obese[3].

Obesity in adults is associated with the following health conditions:

- Heart disease. People who are obese have a 28% increased risk of heart disease compared to healthy people of normal weight[4].
- Cancer. Overweight/obesity is the second biggest preventable cause of cancer in the UK[5].
- Type 2 diabetes. 60-90% of all patients with type 2 diabetes are or have been obese[6].
- Hypertension. Excess weight gain is a major cause of hypertension, accounting for 65% to 75% of the risk[7].
- Stroke. For each one unit increase in body mass index (BMI) the risk of ischaemic stroke increases by about 5%[8].
- Reproductive function. Obesity is associated with problems such as infertility, menstrual disorders, miscarriage, and low testosterone levels[9].
- Depression. Higher BMI is strongly associated with higher odds of depression, especially in women[10].

In the UK, the annual economic cost to society of obesity is £27bn[11]. Obesity has a knock-on effect on the NHS – in 2019/20, there were just over 1 million hospital admissions where obesity was a factor, an increase of 17% on 2018/19[12].

Childhood obesity is a particularly pertinent issue as once obesity is established it is likely to affect an individual throughout their life. Obese children and adolescents are around five times more likely to be obese in adulthood[13]. Additionally, children's obesity is closely associated with the status of a parent's BMI, meaning once established, the problem can become inter-generational. In 2019, only 7% of children with mothers who were neither overweight nor obese were obese; in contrast, 27% of obese children had a mother who was also obese[3]. Obesity is also linked to deprivation - 2019 statistics show that children living in the most deprived areas were more than twice as likely to be obese as those living in the least deprived areas[14].

In the UK, monitoring of childhood obesity is carried out through the National Child Measurement Programme (NCMP), which measures the height and weight of children in Reception class and year six[15].

National policy

In July 2020 the Department of Health and Social Care published 'Tackling Obesity: Empowering Adults and Children to Live Healthier Lives'[16]. This contained the following options:

- Introducing a new campaign for those who are overweight to take steps to move towards a healthier weight
- Working to expand weight management services through the NHS
- Publishing a consultation to gather viewings on the traffic light labelling system

- Requiring large out of home food businesses to add calorie labels to the food they sell and consulting on calorie labelling on alcohol
- Ending promotions of high fat, sugar and salt food and banning their advertisement on TV and online before 9pm

The NHS Long Term Plan contained the following actions on obesity[17]:

- Provision of access to weight management services in primary care for people with a diagnosis of type 2 diabetes
- Funding of a doubling of the NHS Diabetes Prevention Programme over the next five years
- Testing an NHS programme supporting very low-calorie diets for obese people with type 2 diabetes
- Action on healthy NHS premises for example on hospital food standards

Relevant NICE guidance

CG43: Obesity prevention (2016)[18]

This guideline covers preventing children, young people and adults from becoming overweight or obese. Key priorities for implementation include:

- Making sure that managers and health professionals in primary care settings ensure that managing and preventing obesity is a priority.
- Partnership work by local authorities to create spaces for safe physical activity.
- In workplaces, schools and early years settings, action to minimise sedentary time and encourage healthy diets.

CG189: Identification, assessment and management of obesity (2014)[19]

This guideline covers identifying, assessing, and managing obesity in children (aged 2 years and over) and adults. Key recommendations include:

- Tailor components of the planned weight management programme to a person's preferences, initial fitness, health status and lifestyle
- Multicomponent interventions for weight management are the treatment of choice, including behaviour change strategies to increase physical activity, improve eating behaviour and reduce energy intake.
- Consider pharmacological treatment only after dietary, exercise and behavioural approaches have been started and evaluated

PH53: Weight management services (2014)[20]

This guideline covers lifestyle weight management services (Tier 2 services) for those aged 18 or over. There are a wide range of recommendations for these types of services, which include but are not limited to the following:

- Ensure an integrated approach to preventing and managing obesity.
- Refer overweight and obese adults to a lifestyle weight management programme.
- Commission programmes that include the core components for weight loss (dietary intake, physical activity levels and behaviour change)

PH47: Weight management: lifestyle services for overweight or obese children and young people (2013)[21]

This guideline covers lifestyle weight management services for children and young people aged under 18 who are overweight or obese. Key recommendations include:

- Ensure family-based, multicomponent lifestyle weight management services for children and young people are available as part of a community-wide, multi-agency approach to promoting a healthy weight and preventing and managing obesity.
- Ensure services have components such as behaviour-change techniques, positive parenting skills training, and a family approach to healthy eating and physical activity.
- Offer programmes to groups of children or young people and their families.

Weight management strategies and services in Suffolk

Adults

Suffolk adopted a 'whole systems approach' to obesity in 2017 and were part of a UK Health Security Agency (formerly Public Health England) (PHE) pilot to develop some initial guidance. In 2021 'Tackling Obesity in Suffolk' was published, which constitutes phase 2 of the whole systems approach, with an aim to understand the local picture of obesity[21]. Phase 3 will be to undertake a workshop where stakeholders are invited to develop a local system map of the causes of obesity[22].

Adult weight management services in Suffolk are provided by OneLife Suffolk, which provides up to 12 months of free adult weight management support including 12-week group programmes and monthly weight maintenance sessions. There is also a partnership arrangement with Slimming World, which vouchers available for those who are eligible. These services are provided to adults with a BMI over 30 (categorised by WHO as obese) or over 27.5 if of certain ethnic groups or with certain medical conditions.

Children

Suffolk has a dedicated Childhood Obesity Strategy, covering 2019-2023, which aims to engender a whole systems approach to tackling obesity in partnership with other agencies across the county. Key themes in the strategy include marketing and advertising, food education and environment, early years and schools, fiscal measures, support for children living with obesity and attitudes to obesity. Priorities identified in the strategy, with specific actions under each, are as follows:

- Improving access to affordable, healthier food for children, young people and their families. Includes actions such as social marketing campaigns around sugary drinks consumption, working to provide healthier school meals
- Improving access to safe environments that encourage physical activity participation by children and families. Includes actions such as increasing the number of schools in Suffolk delivering the Daily Mile, promoting active travel to school programmes
- Improving support for child and young people to maintain healthy lifestyles and behaviours. Includes actions such as increasing the number of children and families accessing weight management services, increasing referrals for child weight management support identified through NCMP

In Suffolk, OneLife provide Tier 1 and 2 weight management provision for children, young people and their families. This includes prevention, management of overweight and obesity and weight maintenance. The service includes multi-component weight management programmes with a variety of delivery mechanisms, individualised to a child or young person's needs.

Tier 1 services provide universal, early intervention, information and signposting on diet and physical activity and offer an opportunity for behaviour change. Tier 2 interventions are evidence based, multicomponent community-based weight management services which support individuals to lose and subsequently maintain their weight loss..

OneLife also provide a Tier 3 weight management service for children in Suffolk, which is a more intensive, specialist intervention delivered by a multi-disciplinary team. The intervention is based on cognitive behavioural therapy (CBT) combined with specialist dietetic support. This was originally delivered as a one year pilot but will now be extended until April 2023.

What does the data tell us?

Tackling obesity is one of the greatest long-term health challenges this country faces. Today, around two-thirds (62.3%) of adults in England are above a healthy weight. There are also 1 in 3 (35.2%) children leaving primary school who are already overweight or obese, with 1 in 5 (21.0%) living with obesity[23].

Obesity is associated with reduced life expectancy. It is a risk factor for a range of chronic diseases, including cardiovascular disease, type 2 diabetes, at least 12 kinds of cancer, liver and respiratory disease[24], and obesity can impact on mental health. Additionally, obesity prevalence is highest amongst the most deprived groups in society[3]. Children in the most deprived parts of the country are more than twice as likely to be obese as their peers living in the richest areas. This is sowing the seeds of adult diseases in early childhood and reflects persisting health inequalities throughout the lifespan.

England's rates of obesity are storing up future problems for individuals and our NHS. But worryingly, there is now consistent evidence that people who are overweight or living with obesity who contract coronavirus (COVID-19) are more likely to be admitted to hospital, to an intensive care unit and, sadly to die from COVID-19 compared to those of a healthy body weight status[25]. One study found that for people with a BMI of 35 to 40, risk of death from COVID-19 increases by 40.0% and with a BMI over 40 by 90.0%, compared to those not living with obesity. Other data found that in intensive care units, 7.9% of critically ill patients with COVID-19 had a BMI over 40 compared with 2.9% of the general population[26]. Therefore, obesity has become an immediate concern for anyone who is overweight and for our health and care services.

Obesity in Suffolk

Suffolk has seen an increase in the proportion of adults (18+) registered to a GP practice recorded as clinically obese over the last three years, rising from 10.4% in 2017/18 to 11.5% in 2019/20. A similar trend can be seen across England, where the prevalence of obesity has gone from 9.8% in 2017/18 to 10.5% in 2019/20 (see figure 1).

Norfolk and Waveney CCG (NWCCG) has continually shown a statistically significantly higher prevalence of obesity compared to England from 2017/18 (11.7% compared to 9.8%, respectively) through to 2019/20 (11.9% compared to 10.5%, respectively)[i]. The Suffolk-based GP practices in NWCCG have had the highest prevalence of obesity from 2017/18 to 2019/20 compared to other Suffolk CCGs (see figure 1).

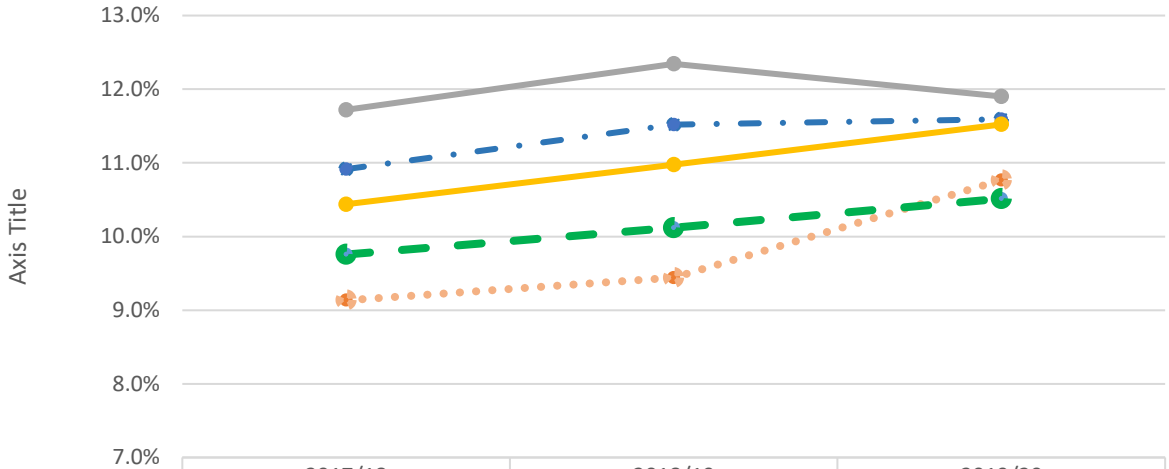
As with NWCCG, IESCCG has also shown a statistically significantly higher prevalence of obesity compared to England from 2017/18 (10.9% compared to 9.8%, respectively) to 2019/20 (11.6% compared to 10.5%).

WSCCG has historically had a statistically significantly lower prevalence of obesity compared to England; in 2017/18 WSCCG obesity prevalence was 9.1% compared to 9.8% across England, while in 2018/19 WSCCG obesity prevalence was 9.4% compared 10.1%, respectively. However, in 2019/20

[i] Please note that the NWCCG data is based on Suffolk-based GP practices only. Norfolk-based GP practices have been omitted from the data. Additionally, the Great Yarmouth and Waveney CCG has now become the Norfolk and Waveney CCG.

WSCCG presented a statistically significantly higher prevalence of obesity compared to England (10.8% compared to 10.5%, respectively).

Figure 1: Percentage of patients aged 18 and over with a BMI greater than or equal to 30 in the previous 12 months, England, Suffolk, CCGs, 2017/18 to 2019/20



	2017/18	2018/19	2019/20
IESCCG	10.9%	11.5%	11.6%
WSCCG	9.1%	9.4%	10.8%
NWCCG	11.7%	12.3%	11.9%
Suffolk	10.4%	11.0%	11.5%
England	9.8%	10.1%	10.5%

Source: NHS Digital, Quality Outcome Framework, 2020

Obesity at a local level: looking at obesity by GP practice

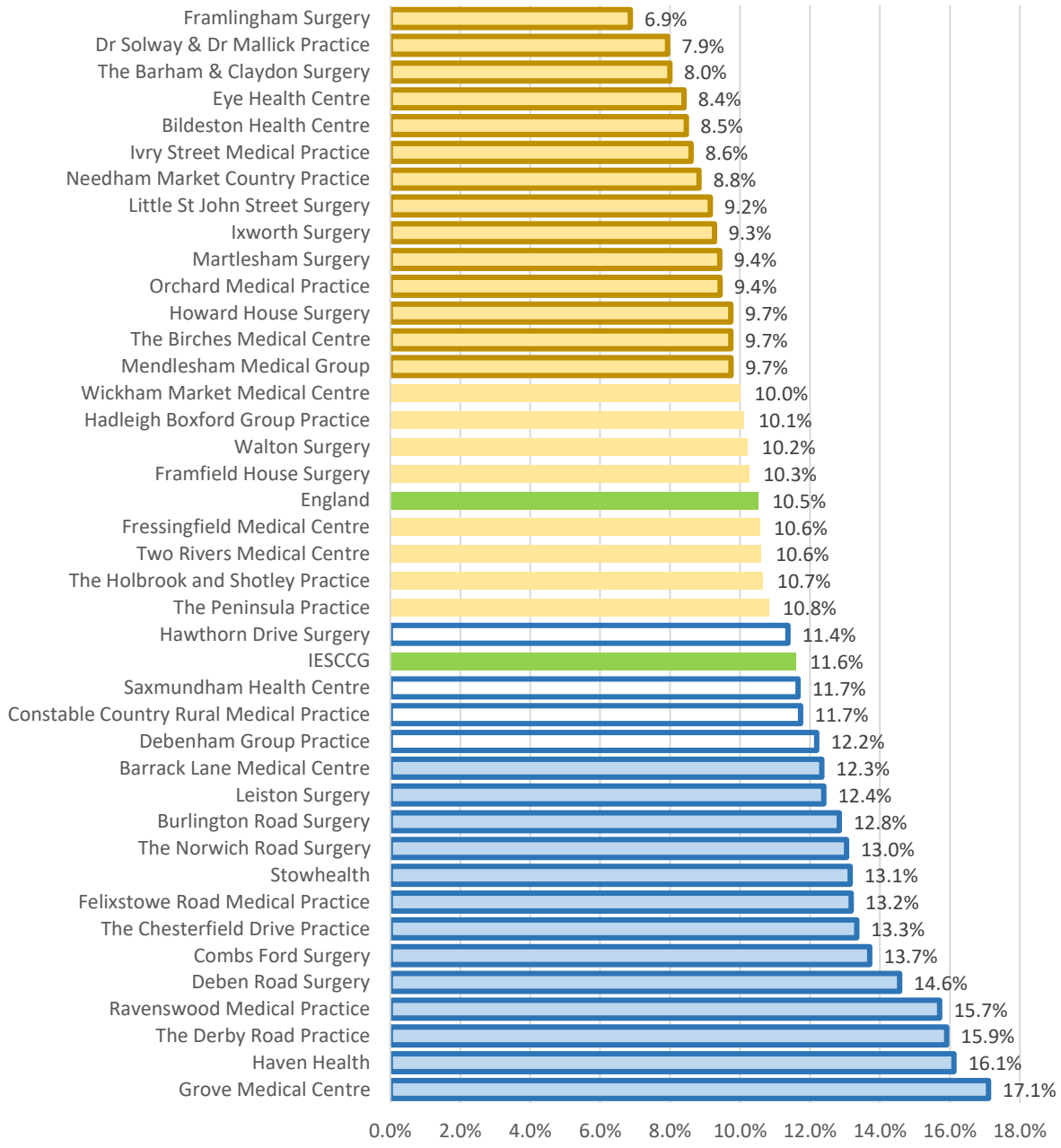
Looking at adult obesity by CCG and GP practice allows for local stakeholders to understand where there is a need for intervention or collaboration in their area. The following section looks to identify the statistically significantly higher and lower prevalence of obesity by CCG and GP practice.

Ipswich and East Suffolk Clinical Commissioning Group (IESSCG)

Based on the 2019/20 QOF, there were 38,464 patients across IESCCG aged 18 and over with a BMI greater than or equal to 30 in the previous 12 months. 13 GP practices in IESCCG presented a higher proportion of patients aged 18 and over with a BMI greater than or equal to 30 in the previous 12 months compared to England (10.5%) and IESCCG (11.6%).

14 GP practices in IESCCG had a statistically significantly lower prevalence of clinical obesity compared to England and IESCCG (see figure 2).

Figure 2: Percentage of patients aged 18 and over with a BMI greater than or equal to 30 in the previous 12 months, GP practices with IESCCG, QOF 2019/20



Source: NHS Digital, Quality Outcome Framework, 2020

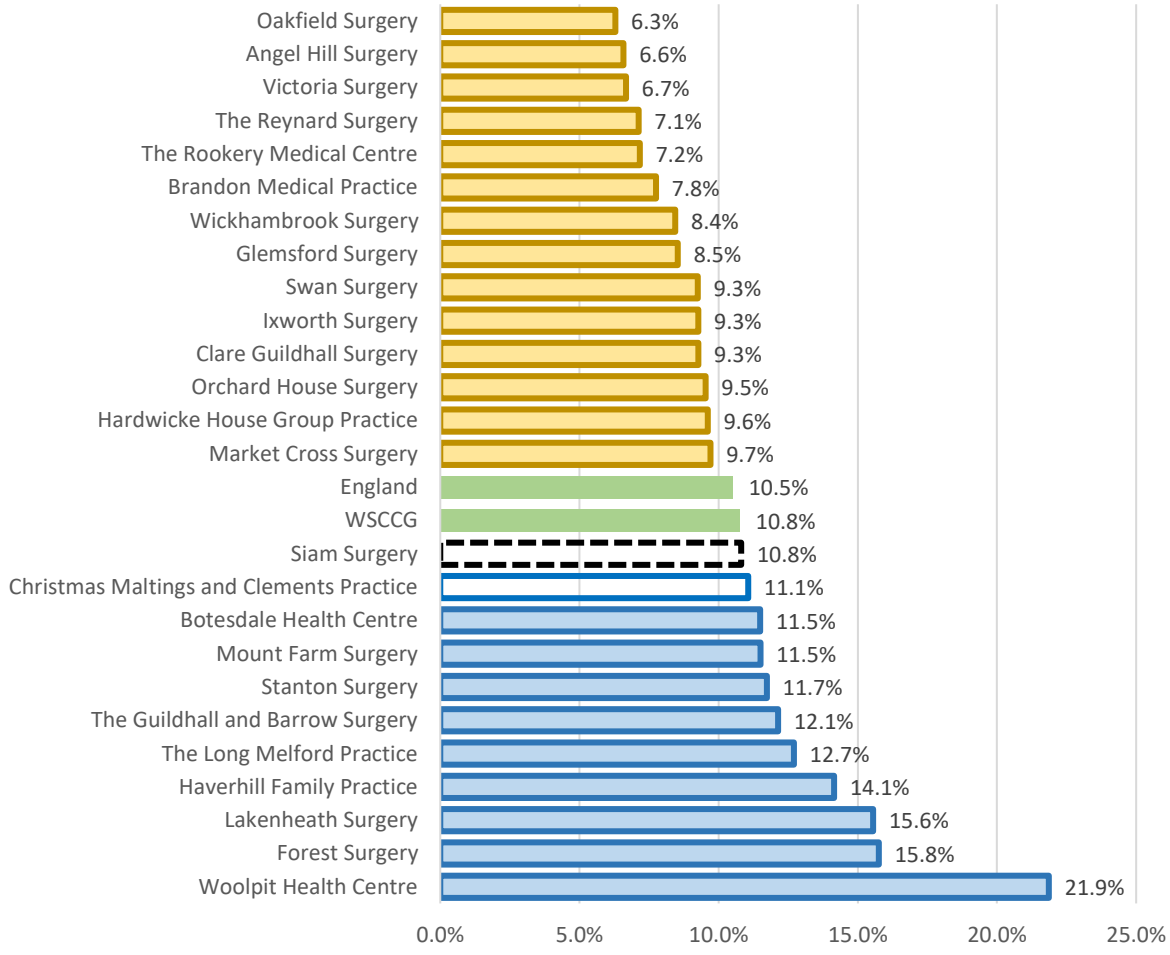
	Significantly lower than CCG
	Significantly lower than CCG and England
	Significantly lower than England
	Significantly higher than England
	Significantly higher than CCG and England
	Significantly higher than CCG

West Suffolk Clinical Commissioning Group (WSCCG)

Based on the 2019/20 QOF, there were 22,494 patients across WSCCG aged 18 and over with a BMI greater than or equal to 30 in the previous 12 months. 9 GP practices in WSCCG presented a higher proportion of patients aged 18 and over with a BMI greater than or equal to 30 in the previous 12 months compared to England (10.5%) and WSCCG (10.8%).

14 GP practices in WSCCG had a statistically significantly lower prevalence of clinical obesity compared to England and WSCCG (see figure 3).

Figure 3: Percentage of patients aged 18 and over with a BMI greater than or equal to 30 in the previous 12 months, GP practices with WSCCG, QOF 2019/20



Source: NHS Digital, Quality Outcome Framework, 2020

	Significantly lower than CCG
	Significantly lower than CCG and England
	Significantly lower than England
	Significantly higher than England
	Significantly higher than CCG and England
	Significantly higher than CCG

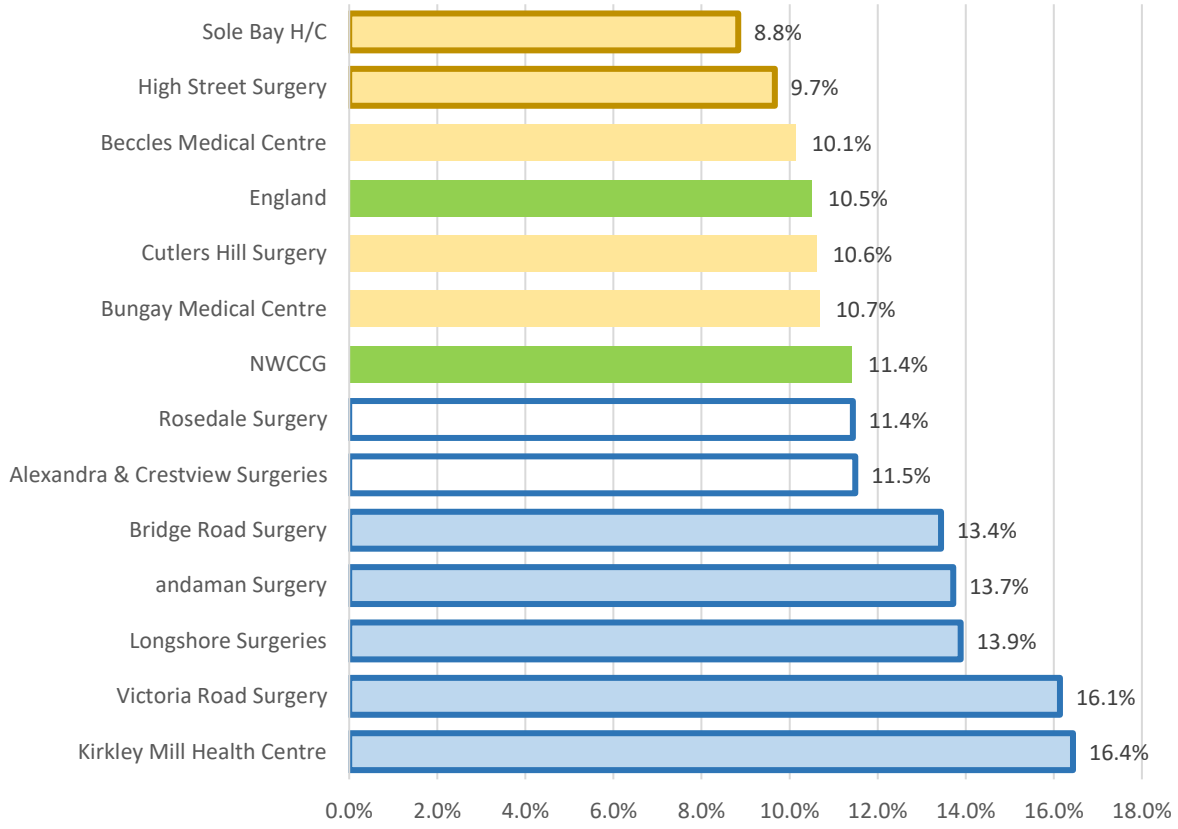
Norfolk and Waveney Clinical Commissioning Group (NWCCG)

For the purpose of this report, only Suffolk-based GP practices are included in the NWCCG figures below.

Based on the 2019/20 QOF, there were 12,912 patients across Suffolk-based NWCCG GP practices aged 18 and over with a BMI greater than or equal to 30 in the previous 12 months. 5 GP practices in NWCCG presented a higher proportion of patients aged 18 and over with a BMI greater than or equal to 30 in the previous 12 months compared to England (10.5%) and NWCCG (10.8%).

2 Suffolk-based GP practices in NWCCG had a statistically significantly lower prevalence of clinical obesity compared to England and NWCCG (see figure 4).

Figure 4: Percentage of patients aged 18 and over with a BMI greater than or equal to 30 in the previous 12 months, GP practices with NWCCG, QOF 2019/20



Source: NHS Digital, Quality Outcome Framework, 2020

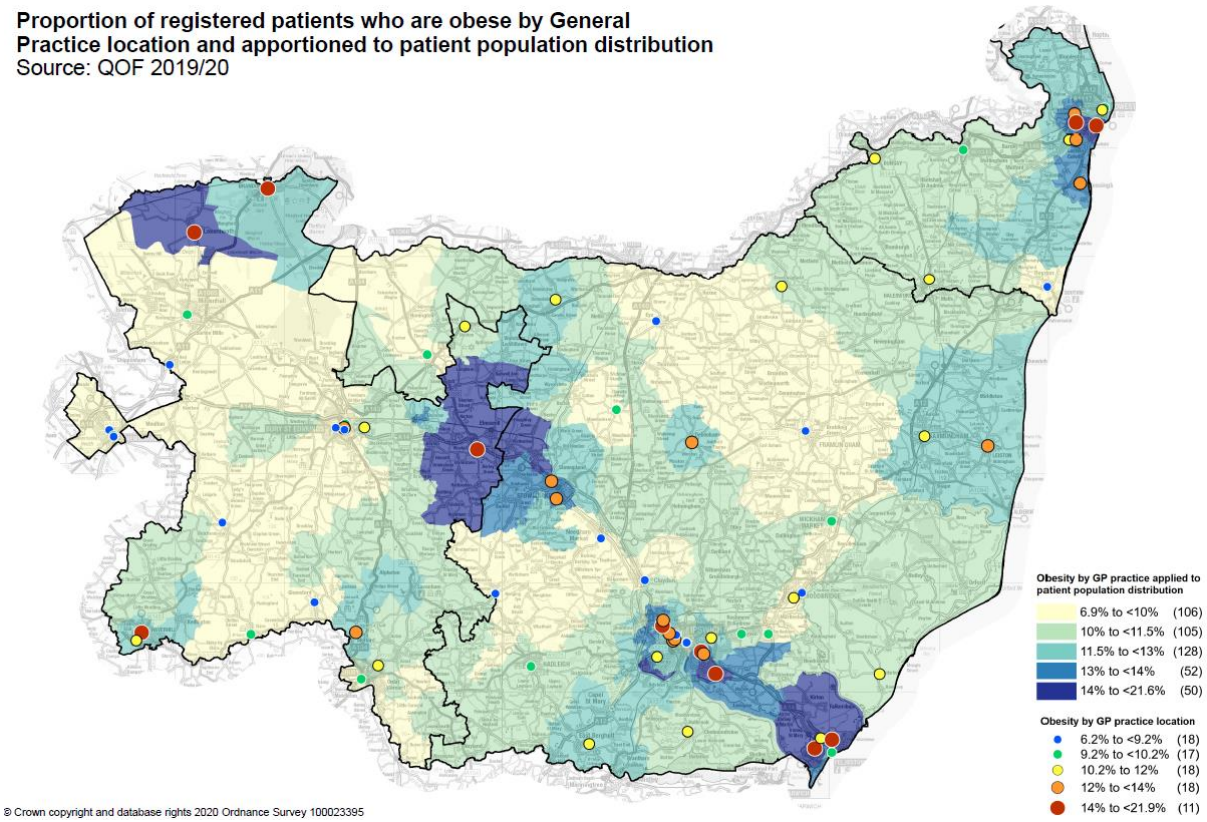
	Significantly lower than CCG
	Significantly lower than CCG and England
	Significantly lower than England
	Significantly higher than England
	Significantly higher than CCG and England
	Significantly higher than CCG

Mapping obesity across Suffolk

Obesity prevalence has been mapped across Suffolk's middle-layer super outputs areas (MSOAs) using QOF obesity prevalence data seen above in conjunction with GP patients addresses. Additionally, the obesity prevalence for all Suffolk-based GP practices has been overlayed to provide a comparator between GP practices in Suffolk.

The map shows that there is a higher prevalence of clinically obese adults in Mildenhall, Bury St Edmunds, areas of Ipswich, Felixstowe, and areas of Lowestoft (see figure 5).

Figure 5: Proportion of registered GP patients who are clinically obese, by Middle-layer Super Output Area (MSOA) and GP practice location, QOF 2019-20



Note: MSOAs are geographic boundaries that contain an average of 7,500 residents.

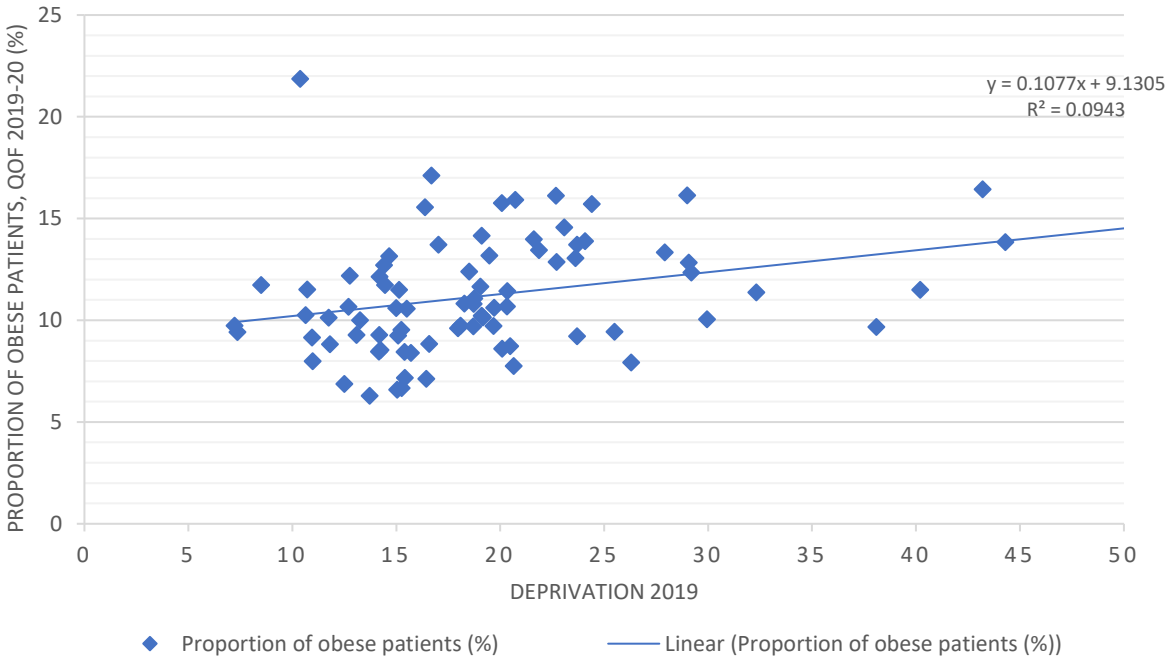
Obesity linked to deprivation

Findings from UK Health Security Agency (formerly Public Health England) published in December 2019 found that adult obesity in England was associated with neighbourhood deprivation. In the least deprived areas 20% of adults were obese compared to 36% of adults living in the most deprived areas[3]. A similar positive trend between obesity and deprivation can be seen across Suffolk, albeit a weaker correlation (see figure 6).

Figure 6 uses the Indices of Deprivation 2019, organised across seven distinct domains[ii], to calculate an overall measure of multiple deprivation experienced by patients registered to each GP practice in Suffolk. The data presents a clear trend; higher relative deprivation is linked to a higher prevalence of obesity.

GP practices such as the Martlesham Surgery (7.35, IMD decile 9) and the Birches Medical Centre (7.21, IMD decile 9) have a statistically significantly lower prevalence of obesity (9.4% and 9.7%, respectively) compared to England (10.5%) and their respective CCG, IESCCG (11.6%). While GP practices that are relatively more deprived such as The Park Surgery (44.29, IMD decile 1) and the Kirkley Mill Health Centre (43.19, IMD decile 2) have a statistically significantly higher prevalence of clinical obesity (13.9% and 16.4%, respectively) compared to England (10.5%) and their respective CCG, NWCCG (11.4%).

Figure 6: Percentage of patients aged 18 and over with a BMI greater than or equal to 30 in the previous 12 months by GP practice (QOF,2019/20) and deprivation score (IMD 2019)



Note: each scatter plot represents a GP practice in Suffolk. The deprivation score for each GP practice has been taken from UK Health Security Agency (formerly Public Health England)'s Fingertips dashboard (IMD, 2019). 0 represents the least deprived while 50 represents the most deprived relative to England.

Source: PHE Fingertips and Quality Outcome Framework, 2020

[ii] Income Deprivation, Employment Deprivation, Health Deprivation and Disability, Education, Skills and Training Deprivation, Barriers to Housing and services, Living Environment Deprivation and Crime.

National Children's Measurement Programme

The National Child Measurement Programme (NCMP) measures the height and weight of children in Reception Year class (aged 4 to 5) and year 6 (aged 10 to 11), to assess overweight and obesity levels in children within primary schools.

The data can be used nationally to support local public health initiatives, and locally to inform the planning and delivery of services for children. The programme was set up in line with the government's strategy to tackle obesity, and to:

- inform local planning and delivery of services for children;
- gather population-level data to allow analysis of trends in growth patterns and obesity;
- increase public and professional understanding of weight issues in children; and
- be a vehicle for engaging with children and families about healthy lifestyles and weight issues.

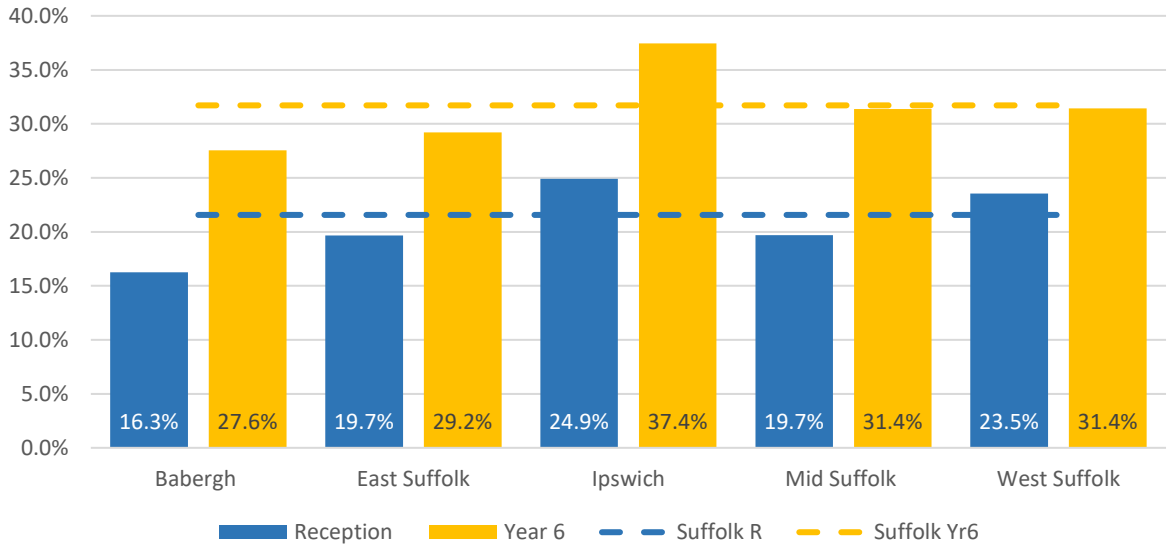
Heights and weights are measured and used to calculate a Body Mass Index (BMI) centile. The measurement process is overseen by trained healthcare professionals in schools.

It must be noted that COVID-19 affected NCMP data collection for the 2019/20 reporting period. Firstly, the Reception Year total for number children measured was 4,155 compared to the previous year total of 7,489, a 22.2% reduction. While Year 6 data collection was not significantly affected due to the majority of measurements completed by December 2019 (7,387 in 2018/19 compared to 7,250 in 2019/20 – a reduction of 4.2%).

Results from the 2019/20 academic year indicate that prevalence of overweight and obesity in Reception Year children (aged 4 to 5) is lower in Suffolk (21.6%) than England (23.0%) and similar to the East of England (21.8%)[14]. Similarly, the prevalence of overweight and obesity in Year 6 children (aged 10 to 11) is lower in Suffolk (31.7%) than England (35.2%) and similar to the East of England (32.7%). Despite performing better than England it is important to note that nearly 1 in 3 (31.7%) Year 6 students in Suffolk are above the recommended healthy weight (see figure 7).

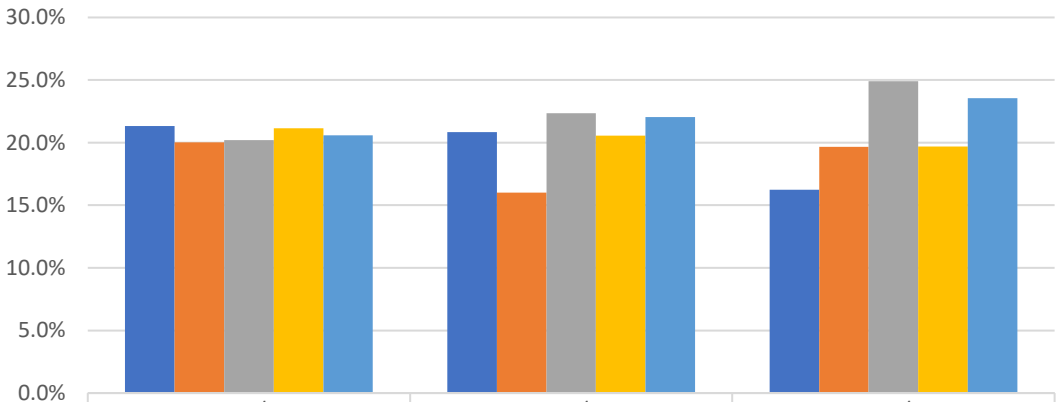
Variation is seen in the prevalence of overweight and obesity between the districts/boroughs in Suffolk, with lower prevalence in the less deprived areas and higher prevalence in the more deprived areas (including Ipswich). Please note that the figures provided in Figures 7 to 9 will differ to NHS Digital. This report has used pupils' postcodes to proportion the prevalence of overweight and very overweight children rather than the NHS Digital methodology which uses the pupil's school postcode.

Figure 7: Prevalence of overweight or very overweight children among Reception Year and Year 6 age children, Suffolk, districts, and boroughs, 2019/20



Source: National Childhood Measurement Programme (NCMP), 2020

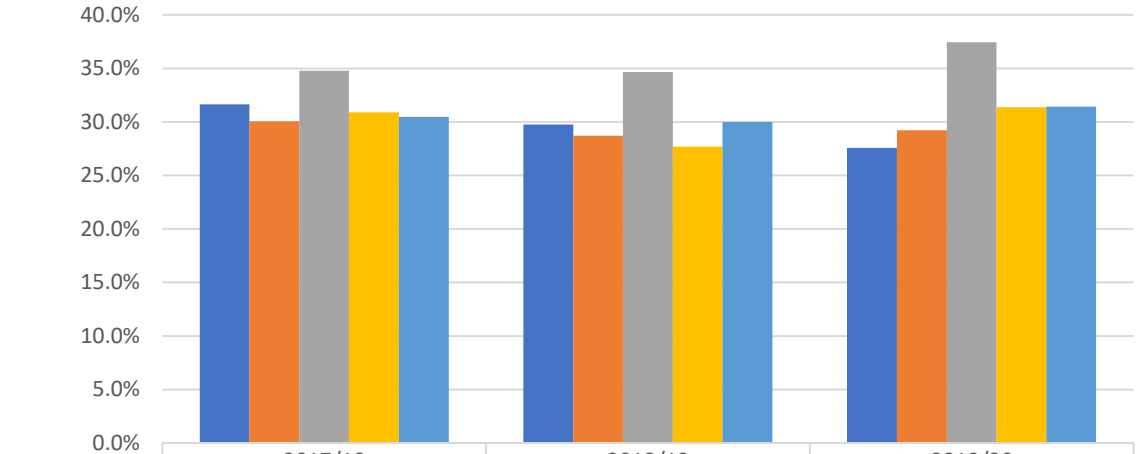
Figure 8: Prevalence of overweight or very overweight children among Reception Year children, Suffolk districts and boroughs, 2017/18 to 2019/20



	2017/18	2018/19	2019/20
Babergh	21.3%	20.8%	16.3%
East Suffolk	20.0%	16.0%	19.7%
Ipswich	20.2%	22.3%	24.9%
Mid Suffolk	21.2%	20.6%	19.7%
West Suffolk	20.6%	22.1%	23.5%

Source: National Childhood Measurement Programme (NCMP), 2020

Figure 9: Prevalence of overweight or very overweight children among Year 6 children, Suffolk districts and boroughs, 2017/18 to 2019/20



	2017/18	2018/19	2019/20
Babergh	31.6%	29.8%	27.6%
East Suffolk	30.1%	28.7%	29.2%
Ipswich	34.8%	34.6%	37.4%
Mid Suffolk	30.9%	27.7%	31.4%
West Suffolk	30.5%	30.0%	31.4%

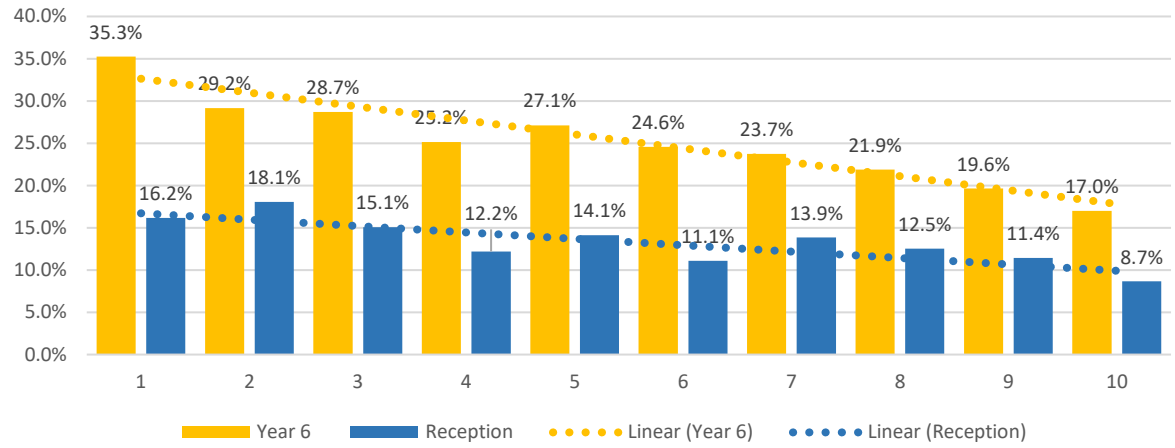
Source: National Childhood Measurement Programme (NCMP), 2020

Childhood obesity linked to deprivation

In 2016, the Government launched 'Childhood Obesity: A Plan for Action'[27], which set out a number of actions primarily focused on reducing sugar consumption and increasing physical activity among children. In June 2018, an update to the action plan was published, setting a national ambition to "halve childhood obesity and reduce the gap in obesity between children from the most and least deprived areas by 2030"[28]. Suffolk has a Childhood Obesity Action Plan that is currently being refreshed at the time of writing this report.

There is a strong association between deprivation and obesity in children. In 2019/20, the prevalence of obesity in children Reception Year class (aged 4 to 5) was almost twice as high in the most deprived areas of Suffolk (16.2%) compared to the least deprived areas of Suffolk (8.7%). Similarly, the prevalence of obesity in Year 6 children (aged 10 to 11) was more than twice as high in the most deprived areas (35.3%) of Suffolk compared to the least deprived areas of Suffolk (17.3%) (see figure 10).

Figure 10: Prevalence of overweight or very overweight children among Reception Year and Year 6 age children by IMD decile, 2019/20



Note: figure 10 presents the IMD decile attributed to Suffolk-based students' home postcode. Students who reside outside of Suffolk were omitted from the data presented in figure 10. 1 represents the most deprived decile while 10 represents the least deprived decile.

Source: National Childhood Measurement Programme (NCMP), 2020

Childhood weight by ethnicity

UK Health Security Agency (formerly Public Health England) found that ethnicity has an independent effect on obesity prevalence in both Year 6 and Reception boys and girls after pupil age in months, quarter of measurement, national deprivation quintile, height, government office region, and the urban/rural status of the LSOA of the child residence are taken into account. Including height in the models reduces the disparity in predicted obesity prevalence for Black children compared to White children but has little effect for Asian children.

Controlling for height suggests that previous findings showing that children from Black backgrounds are more likely to be obese are to some extent due to physical characteristics related to ethnicity, in particular height.[iii]

Similarly in Suffolk, children from Black backgrounds presented the highest prevalence of overweight or very overweight children in Reception (18.1%) and Year 6 (31.2%). At Reception, Asian children presented the lowest prevalence of overweight or very overweight children (11.8%) compared to other ethnic backgrounds – 6.3 percentage points lower than children from Black backgrounds. For those in Year 6, White children presented the lowest prevalence of overweight or very overweight children (23.7%) compared to other ethnic backgrounds – 7.5 percentage points lower than children from Black backgrounds.

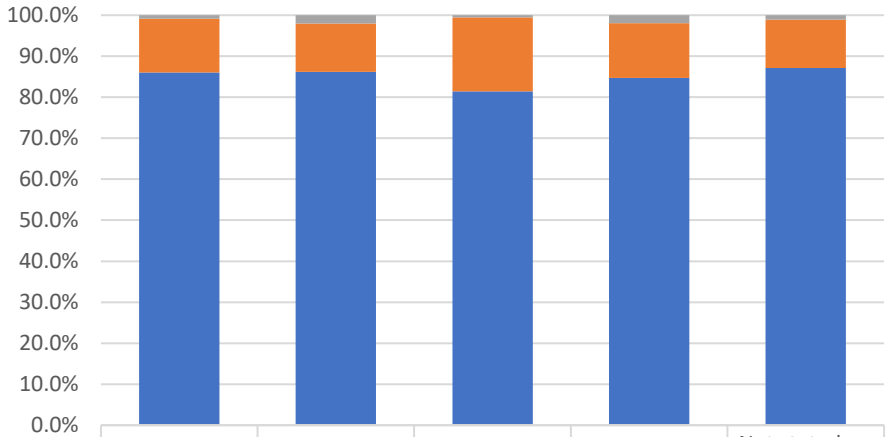
Children from Asian backgrounds presented the highest prevalence of underweight children in Reception Year (2.0%) and Year 6 (2.8%) when compared to children from other ethnic backgrounds. However, this data should be treated with caution due to the low sample size.

It must be noted, however, that there are limitations to the analysis of NCMP data by ethnicity at a Suffolk level. Even when pooling three years of NCMP data, the number of children from Asian and

[iii] https://www.gov.uk/government/publications/differences-in-child-obesity-by-ethnic-group/differences-in-child-obesity-by-ethnic-group#fn:3

Black ethnic groups was not large enough to allow analysis by detailed ethnic group. The summary ethnic groups considered here, therefore, each includes a number of constituent groups which may have different sociodemographic and physical characteristics. This is also the case for the other groups included, for example, children from the Chinese ethnic group were included in 'Other'.

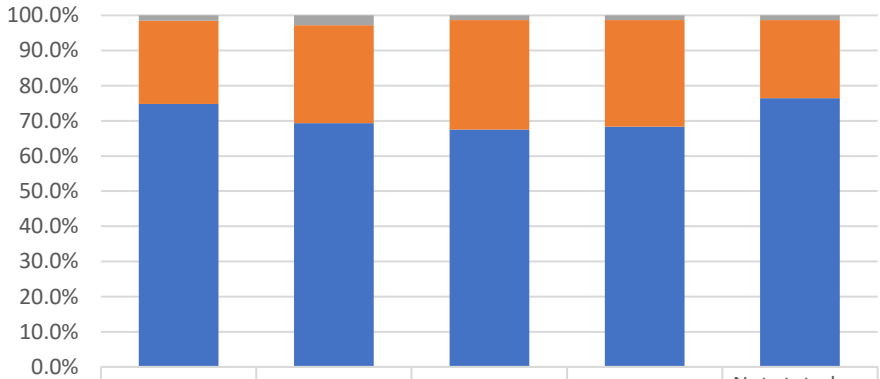
Figure 11: Prevalence of overweight or very overweight and underweight children among Reception Year age children in Suffolk grouped by ethnicity, 2017-18 to 2019-20



	White	Asian	Black	Other	Not stated or unknown
underweight	0.9%	2.0%	0.5%	1.9%	1.1%
overweight or very overweight	13.1%	11.8%	18.1%	13.4%	11.8%
healthy weight	86.0%	86.2%	81.4%	84.7%	87.1%

* To improve the accuracy of results a 3-year pooled average to this data to highlight longer-term trends, whilst helping smooth out short-term fluctuations, reducing the impact of any methodological changes affecting the survey.

Figure 12: Prevalence of overweight or very overweight and underweight children among Year 6 children in Suffolk grouped by ethnicity, 2017-18 to 2019-20



	White	Asian	Black	Other	Not stated or unknown
underweight	1.6%	2.8%	1.3%	1.3%	1.3%
overweight or very overweight	23.7%	27.9%	31.2%	30.3%	22.3%
Healthy weight	74.8%	69.4%	67.5%	68.3%	76.4%

* To improve the accuracy of results a 3-year pooled average to this data to highlight longer-term trends, whilst helping smooth out short-term fluctuations, reducing the impact of any methodological changes affecting the survey.

Mapping childhood obesity

NCMP data has been used at MSOA level to map the prevalence of overweight or very overweight children at Reception Year age (aged 4 to 5 – see figure 13) and year 6 (aged 10 to 11 – see figure 14).

In Reception Year age children (aged 5 to 6) the highest proportions of overweight or very overweight children (18.0% to <25.0%) were located in Ipswich, Lowestoft, Felixstowe, Sudbury, Haverhill, Newmarket, Eye and Wickham Market (see figure 13).

For year 6 pupils (aged 10 to 11), the highest proportions of overweight or very overweight children (31.0% to <37.5%) were located in and around Ipswich, Newmarket, Mildenhall, Bury St Edmunds, Stowmarket, Lowestoft and Haverhill (see figure 14).

Figure 13: Prevalence of overweight or very overweight children among Reception Year age children by MSOA, NCMP 2019/2020

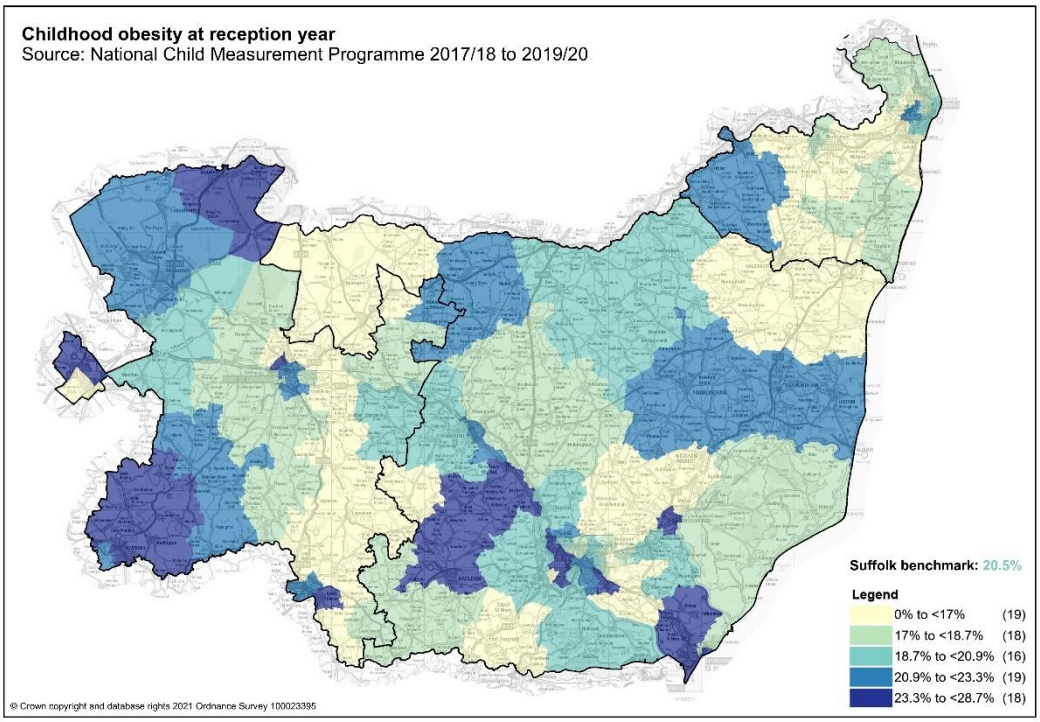
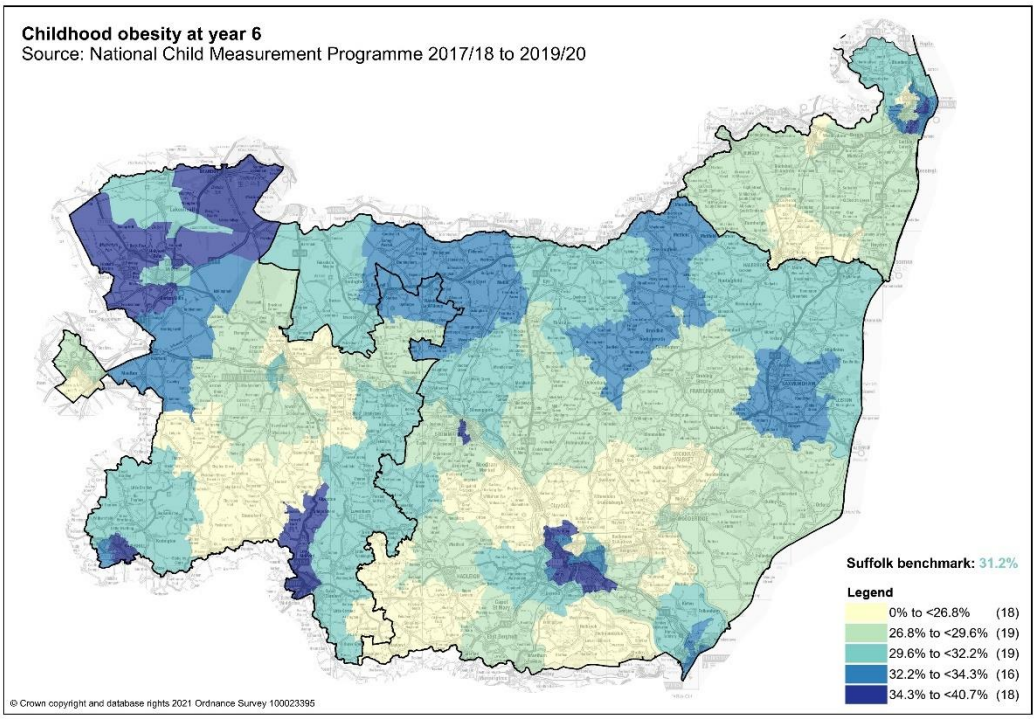


Figure 14: Prevalence of overweight or very overweight children among year 6 age children by MSOA, NCMP 2019/2020



Linking obesity to environmental factors: fast food outlets

Obesity is not a binary trade-off caused by excessive calorie intake, reduced physical activity and increased sedentary lifestyle, it's often associated to - and exacerbated by - environmental factors. These include psychological mediators (e.g. emotions, self-regulation, perceived environment), socio-economic status (e.g. income, deprivation) and local/national settings (e.g. advertising, access to food retailers/service outlets, food labelling, cultural setting and policy)[29]. Poor health literacy (e.g. education on health risks) can also be considered as a contributing factor. Together, these can create and favour 'obesogenic' behaviours and an environment which promotes excessive weight gain[30].

Nationally and locally, overweight and obesity levels are higher in children and adults from neighbourhoods facing higher levels of relative deprivation, and it's concerning to see UK Health Security Agency (formerly Public Health England) analysis which shows that there are more fast food outlets in many of these deprived areas on average[31].

Mapping fast food outlets across Suffolk by ward and deprivation shows a similar trend to UK Health Security Agency (formerly Public Health England)'s national analysis[31]: areas of higher relative deprivation have a higher number of fast food outlets (see figure 16).

The highest proportion of food outlets per 1,000 of the population across Suffolk wards were located in and around Mildenhall, Bury St Edmunds, Sudbury, Ipswich, Felixstowe, Beccles, and Lowestoft (all 2 to 4.6 fast food outlets per 1,000 residents – see figure 15).

Figure 15: Fast food outlets per 1,000 population in Suffolk by Ward, PHE 2017

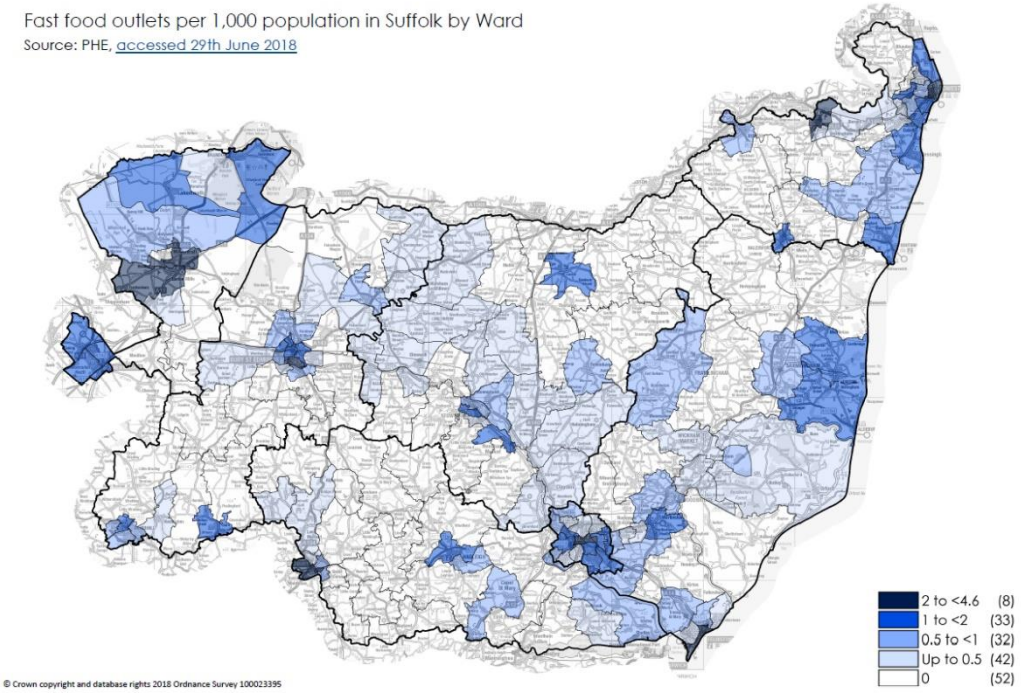
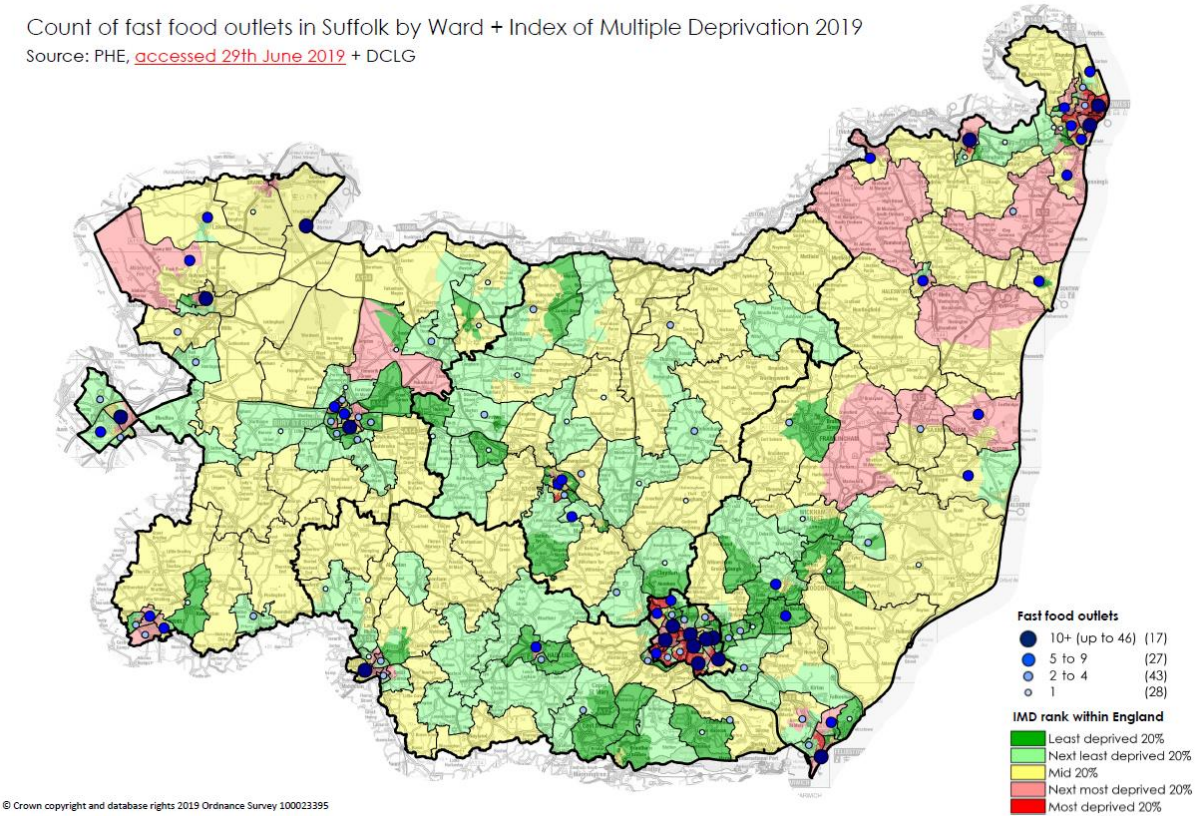


Figure 16: Count of fast food outlets by Ward, 2017, mapped across Index of Multiple Deprivation, 2019



An evidence-led approach to targeting obesity in Suffolk

Summarising the literature

The literature on obesity among children and adults suggests that:

1. Suffolk has seen an increase in the proportion of adults (18+) registered to a GP practice recorded as clinically obese over the last three years, rising from 10.4% in 2017/18 to 11.5% in 2019/20.

2. Findings from UK Health Security Agency (formerly Public Health England) published in December 2019 found that adult obesity in England was associated with neighbourhood deprivation. In the least deprived areas 20% of adults were obese compared to 36% of adults living in the most deprived areas[3]. A similar positive trend between obesity and deprivation can be seen across Suffolk.

3. Results from the 2019/20 academic year indicate that prevalence of overweight and obesity in Reception Year children (aged 4 to 5) in Suffolk is 21.6%, while the prevalence of overweight and obesity in Year 6 children (aged 10 to 11) in Suffolk is 31.7%. Despite performing better than England it is important to note that nearly 1 in 3 (31.7%) Year 6 students in Suffolk are above the recommended healthy weight.

4. There is a strong association between deprivation and obesity in children. In 2019/20, the prevalence of obesity in children Reception Year class (aged 4 to 5) was almost twice as high in the most deprived areas of Suffolk (16.2%) compared to the least deprived areas of Suffolk (8.7%). Similarly, the prevalence of obesity in Year 6 children (aged 10 to 11) was more than twice as high in the most deprived areas (35.3%) of Suffolk compared to the least deprived areas of Suffolk (17.3%).

Priority groups: targeting through GP practices

Addressing point '1' above, targeting could be focused on the GP practices in Suffolk that present a statistically significantly higher prevalence of obesity compared to England and their respective CCG. There are 27 GP practices in Suffolk that meet this criterion (9 in WSCCG, 13 in IESCCG, and 5 in NWCCG). This equates to 35,066 patients across Suffolk's GP practices.

Please see the full list of GP practices in the table below:

Table 1: GP practices that present a statistically significantly higher prevalence of obesity among adults compared to England and their respective CCG.

GP practice	Proportion of clinically obese patients	Number of clinically obese patients	CCG
Woolpit Health Centre	21.9%	2532	WSCCG
Forest Surgery	15.8%	992	WSCCG
Lakenheath Surgery	15.6%	671	WSCCG
Haverhill Family Practice	14.1%	1757	WSCCG
The Long Melford Practice	12.7%	997	WSCCG
The Guildhall and Barrow Surgery	12.1%	1254	WSCCG
Stanton Surgery	11.7%	512	WSCCG
Mount Farm Surgery	11.5%	1303	WSCCG
Botesdale Health Centre	11.5%	882	WSCCG
Grove Medical Centre	17.1%	2115	IESCCG
Haven Health	16.1%	1057	IESCCG
The Derby Road Practice	15.9%	2165	IESCCG
Ravenswood Medical Practice	15.7%	1874	IESCCG
Deben Road Surgery	14.6%	859	IESCCG
Combs Ford Surgery	13.7%	1029	IESCCG
The Chesterfield Drive Practice	13.3%	1287	IESCCG
Felixstowe Road Medical Practice	13.2%	1171	IESCCG
Stowhealth	13.1%	2133	IESCCG
The Norwich Road Surgery	13.0%	1045	IESCCG
Burlington Road Surgery	12.8%	1699	IESCCG
Leiston Surgery	12.4%	765	IESCCG
Barrack Lane Medical Centre	12.3%	1820	IESCCG
Victoria Road Surgery	16.1%	1450	NWCCG
Longshore Surgeries	13.9%	768	NWCCG
Andaman Surgery	13.7%	744	NWCCG
Bridge Road Surgery	13.4%	1354	NWCCG
Kirkley Mill Health Centre	16.4%	831	NWCCG
Total number of patients recorded as clinically obese		35066	

Source: QOF 2019/20

Priority groups: targeting through geographies

Tackling points 2 to 4 above, it is clear that there is a strong association between deprivation and obesity among children and adults in Suffolk. Moreover, this report has evidenced that the prevalence of obesity for children through to adulthood can oftentimes be determined by geography.

Using MSOA geographies and the prevalence of obesity within the MSOA for adults and children, priority localities for obesity outreach can be established. The top 20 MSOAs in Suffolk for the following can be seen in table 2:

1) overweight or very overweight children at Reception Year (aged 4 to 5),
2) overweight or very overweight children at year 6 (aged 10 to 10), and
3) adults (aged 18+) recorded as clinically obese.

There are 90 MSOAs that cover Suffolk. 39 MSOAs appear in the 'top 20' list for the categories listed above (see table 2).

Using the 'top 20' MSOAs to establish whether there are common geographies relating to obesity at Reception Year, year 6, and adulthood will allow Public Health and Communities Suffolk, along with the wider health system, to target obesity outreach in areas that have a higher prevalence of cross-generational obesity. These priority groups are seen as:

A. Priority group 1: MSOAs that appear in the 'top 20' across all three subgroups[iv] (see table 3);
B. Priority group 2: MSOAs that appear in the 'top 20' for 2 of the 3 subgroups (see table 4); and
C. Priority group 3: MSOAs that appear in the 'top 20' for 1 of the 3 subgroups (see table 5).

[iv] The 3 subgroups refer to 1) children at Reception Year, 2) children at year 6, and 3) adults

Table 2: Top 20 MSOAs in Suffolk based on the proportion of overweight or very overweight children in Reception Year (aged 4-5), year 6 (aged 10-11), and clinically obese adults (18+)

Reception Year	MSOA name	Year 6	MSOA name	Adult	MSOA name
28.6%	Haverhill North	40.6%	Gainsborough, Greenwich & Orwell	21.9%	Elmswell South, Haughley, Beyton & Felsham
28.3%	Haverhill East & South	40.0%	Whitehouse	17.1%	Felixstowe East
27.6%	Stoke Park	39.6%	Whitton	16.4%	Lowestoft Harbour & Kirkley
27.0%	Felixstowe Seafront	39.4%	Priory Heath	16.1%	Normanston & Oulton Broad East
26.7%	Kedington, Hundon & Withersfield	38.1%	Brandon	16.1%	Felixstowe West
26.3%	Great Cornard	38.0%	Gipping & Chantry Park	15.9%	Holywells
25.9%	Gipping & Chantry Park	37.5%	Lowestoft Central	15.8%	Brandon
25.6%	Felixstowe West	37.4%	Maidenhall, Stoke & Port	15.7%	Priory Heath
25.3%	Whitehouse	36.3%	Westgate	15.6%	Lakenheath
25.2%	Westgate	36.2%	North Sudbury & Long Melford	14.6%	Whitehouse
24.7%	North Newmarket, Studlands & Exning	35.9%	Haverhill East & South	14.1%	Haverhill North
24.4%	Hadleigh	35.6%	Stowmarket West	14.0%	Normanston & Oulton Broad East
24.4%	Brandon	35.5%	Beck Row, Eriswell & Barton Mills	13.9%	Pakefield South & Kessingland
24.4%	Priory Heath	35.3%	Stoke Park	13.7%	Pakefield North
23.8%	Needham Market South & Graeat Blakenham	35.2%	Haverhill North	13.7%	Stowmarket West
23.7%	Howard Estate & Northgate	35.2%	Sudbury	13.4%	Normanston & Oulton Broad East
23.4%	Woodbridge	35.1%	Holywells	13.3%	Castle Hill
23.3%	Trimley & Kirton	35.0%	Pakefield North	13.2%	Priory Heath
23.3%	Saxmundham & Coldfair Green	34.3%	Red Lodge, Icklingham & Moulton	13.1%	Stowmarket East & Needham Market North
23.2%	Stowmarket East & Needham Market North	33.9%	Fressingfield, Laxfield & Worlingworth	13.0%	Westgate

Source: NCMP 2017-2020, QOF 2019/20

Table 3: MSOAs that appear in all three subgroups

MSOA	LTLA	Reception	Year 6	Adult
Brandon	West Suffolk			
Haverhill North	West Suffolk			
Normanston & Oulton Broad East	East Suffolk			
Priory Heath	Ipswich			
Westgate	Ipswich			
Whitehouse	Ipswich			

Table 4: MSOAs that appear in 2 of the 3 subgroups

MSOA	LTLA	Reception	Year 6	Adult
Felixstowe West	East Suffolk			
Gipping & Chantry Park	Ipswich			
Haverhill East & South	West Suffolk			
Holywells	Ipswich			
Pakefield North	East Suffolk			
Stoke Park	Ipswich			
Stowmarket East & Needham Market North	Mid Suffolk			
Stowmarket West	Mid Suffolk			

Table 5: MSOAs that appear in 1 of the 3 subgroups

MSOA	LTLA	Reception	Year 6	Adult
Beck Row, Eriswell & Barton Mills	West Suffolk			
Castle Hill	Ipswich			
Elmswell South, Haughley, Beyton & Felsham	Mid Suffolk			
Felixstowe East	East Suffolk			
Felixstowe Seafront	East Suffolk			
Fressingfield, Laxfield & Worlingworth	Mid Suffolk			
Gainsborough, Greenwich & Orwell	Ipswich			
Great Cornard	Babergh			
Hadleigh	Babergh			
Howard Estate & Northgate	West Suffolk			
Kedington, Hundon & Withersfield	West Suffolk			
Lakenheath	West Suffolk			
Lowestoft Central	East Suffolk			
Lowestoft Harbour & Kirkley	East Suffolk			
Maidenhall, Stoke & Port	Ipswich			
Needham Market South & Graeat Blakenham	Mid Suffolk			
North Newmarket, Studlands & Exning	West Suffolk			
North Sudbury & Long Melford	West Suffolk			
Pakefield South & Kessingland	Babergh			
Red Lodge, Icklingham & Moulton	West Suffolk			
Saxmundham & Coldfair Green	West Suffolk			
Sudbury	Babergh			
Trimley & Kirton	East Suffolk			
Whitton	Ipswich			
Woodbridge	East Suffolk			

Suffolk's integrated healthy lifestyles commissioned services: adults

Enhanced Adult Weight Management Service and the Slimming World Adult Weight Management Service

Summary

- A total of 4,313 adults attended the OneLife Suffolk's integrated healthy lifestyles adult weight management services in in Year 4 (2019/20). Out of these, 1,679 adults (39%) attended the Enhanced Adult Weight Management and 2,634 adults (61%) attended the Sliming World programmes.
- More than half of completers achieved >5% weight loss in both pathways.
- Less than half of clients attending the Enhanced Adult Weight Management (44%) and Slimming World (47%) pathways completed the 12-week programme in Year 4 (2019/20).
- Following attendance at Enhanced and Slimming World Adult Weight Management services, client groups achieved a statistically significant weight loss and BMI reduction.
- Completers from both Enhanced Adult Weight Management and Slimming World achieved statistically significant more weight loss, BMI reduction and % weight loss compared to non-completer.
- Clients across different IMD quintiles had statistically equal weight loss and BMI reduction.
- Despite that, male clients achieved a statistically significant greater weight loss and BMI change than their Female counterparts. Likewise, White clients had statistically significant more weight loss, BMI reduction and % BMI reduction compared to their Non-White counterparts (however, statistical significance regarding ethnicity should be treated with caution due to low samples and ethnicity aggregation).

Enhanced Adult Weight Management Service

Aims of OneLife Suffolk Adult Weight Management service

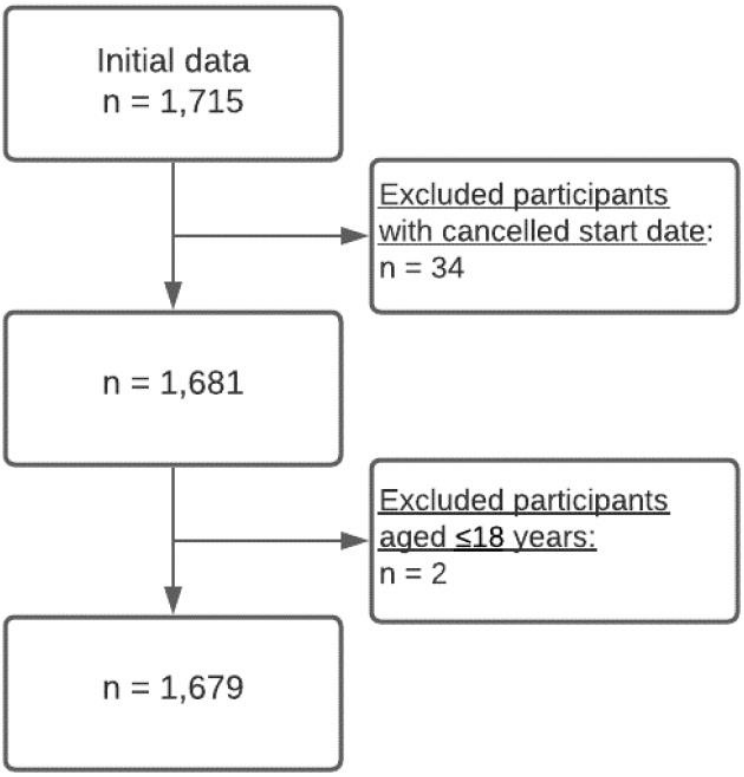
The OLS Enhanced Adult Weight Management service runs for 12 weeks offering intensive support to clients. Each session lasts for one and a half hours with a 30-minute drop-in before or after sessions. The practitioners guide and support clients to understand how thoughts, emotions and feelings influence their decisions on behaviours related to food. Upon completing a 12-week programme, clients are offered ongoing monthly maintenance sessions. These sessions provide clients with an opportunity to access support to maintain behavioural change and have their weight monitored.

Client Characteristics

Referrals

The initial dataset of the Adult Weight Management (AWM) programme contained 1,715 clients. Out of these, 34 clients had their start date cancelled and 2 clients were ≤18 years old (Figure 17). Data from these clients were excluded from the analysis.

Figure 17: OneLife Suffolk Adult Weight Management referrals management process, 2019/20



Client demographics

A total of 1,679 adults attended the OneLife Suffolk Enhanced Adult Weight Management services. Out of these, more than three-quarters (76%) were Females and nearly a quarter were Males (25%). The average age of clients was 56 years.

The majority of the clients were White (96%) and more than half (52%) of all clients were from the 40% most deprived LSOAs of Suffolk. Of all clients, 262 (16%) were Non-Initiators, 669 (40%) were Non-completers, and 748 (44%) were Completers. An average client had an attendance of 51% (Table 6).

Table 6: Client characteristics at baseline, OneLife Suffolk Adult Weight Management Service, 2019/20

			n	%
Gender	Female		1267	75.46
	Male		412	24.54
Ethnicity binary	White		1618	96.40
	Non-White		37	2.20
	Missing		24	1.40
IMD Quintile	1 (20% most deprived)		473	28.20
	2		392	23.30
	3		285	17.00
	4		244	14.50
	5 (20% least deprived)		267	15.90
	Missing		18	1.10
Engagement	No-Initiator		262	15.60
	Non-completer		669	39.80
	Completer		748	44.60
Age (years)	Min=19	Max=90	Mean=56	SD=15
% Attendance	Min=0	Max=100	Mean=51	SD=38

Health indicators

At the end of the Enhanced Adult Weight Management programme, clients lost an average of 2.9 kg and attained a reduction in BMI of 1.1 kgm^{-2}. This was equivalent to a percentage mean weight change of 2.9% (Table 7).

At the end of the Enhanced AWM, 68% of clients lost weight and 25% lost at least 5% of their baseline weight (Table 8). While at the end of the programme, 51% of completers lost at least 5% of their baseline weight (Table 9).

Table 7: Programme outcome measures, OneLife Suffolk Adult Weight Management Service, 2019/20

	N	Minimum	Maximum	Mean ± SD
Initial Height (cm)	1408	150.00	198.10	165.02 ± 9.06
Initial Weight (kg)	1408	59.60	279.10	102.40 ± 21.67
3 Month Weight (kg)	1365	59.60	276.20	99.56 ± 21.82
Initial BMI ($kg.m^{-2}$)	1408	25.02	82.44	37.51 ± 6.89
3 Month BMI ($kg.m^{-2}$)	1356	22.86	81.58	36.49 ± 7.02
Weight Change at 3 Month (kg)	1356	-20.30	12.50	-2.92 ± 3.66
BMI Change at 3 Month ($kg.m^{-2}$)	1356	-7.50	4.59	-1.07 ± 1.31
% Weight Change at 3Month	1356	-16.42	15.28	-2.91 ± 3.57
% BMI Change at 3Month	1356	-16.42	15.28	-2.91 ± 3.57

Table 8: Percentage weight change categories, OneLife Suffolk Adult Weight Management Service, 2019/20

Weight change category	n (%)
Gained	76 (4.5)
Maintained	461 (27.4)
Lost <3%	261 (15.5)
Lost between 3 and <5%	138 (8.2)
Lost between 5 and <10%	365 (21.7)
Lost 10% or more	55 (3.2)
Missing	324 (19.2)

Table 9: Percentage weight change categories among completers, OneLife Suffolk Adult Weight Management Service, 2019/20

	n (%)
Gained	36 (4.8)
Maintained	72 (9.6)
Lost <3%	139 (18.5)
Lost between 3 and <5%	113 (15.1)
Lost between 5 and <10%	331 (44.2)
Lost 10% or more	53 (7.0)
Missing	4 (0.5)

Outcomes

Inferential statistical tests were conducted to identify the impact of attending and completing the programme on weight and BMI reduction. Overall, individuals who attended the Enhanced Adult Weight Management programme lost a statistically significant amount of weight and achieved a reduction in BMI post service compared to the baseline. At the end of the Enhanced AWM, 68% of clients lost weight and 25% lost at least 5% of their baseline weight.

Table 10: Results of paired t-test assessing the differences of outcome variables at baseline, 3-months and End, OneLife Suffolk Adult Weight Management Service, 2019/20

	N	Mean ± SD	Paired Mean difference ± SD	*t*	df	*p*-value
3 Month Weight (kg)	1356	99.60 ± 21.78	-2.92 ± 3.66	-29.41	1355	<0.001
Initial Weight (kg)	1356	102.52 ± 21.71				
3 Month BMI ($kg.m^{-2}$)	1356	36.49 ± 7.02	-1.07 ± 1.31	-29.96	1355	<0.001
Initial BMI ($kg.m^{-2}$)	1356	37.56 ± 6.90				

N = number of clients; SD = Standard deviation; * *p*-value is significant at <0.05 level.

Gender

An independent t-test performed showed that at the end of the programme, on average males lost more weight (3.8 kg) compared to females (2.7 kg). Likewise, at the end of the programme, males achieved a statistically significant larger BMI decrease (1.2 kgm^{-2}) than females (1.0 kgm^{-2}).

Ethnicity

An independent t-test showed that both weight loss, BMI reduction, % weight change, and % BMI change were not statistically different between White and Non-White clients.

Deprivation

Similarly, a One-way ANOVA showed that both weight loss, BMI reduction, % weight change, and % BMI change were not statistically different between IMD Quintiles.

Engagement

An independent t-test showed that at the end of the programme, on average Completers lost more weight (4.7 kg) compared to Non-completers (0.8 kg). Likewise, at the end of the programme, Completers achieved statistically significant higher BMI loss (1.7 kgm^{-2}) than Non-completers (0.3 kgm^{-2}). Similar differences were also evident with % Weight change and % BMI change after the programme.

Slimming World Adult Weight Management Service

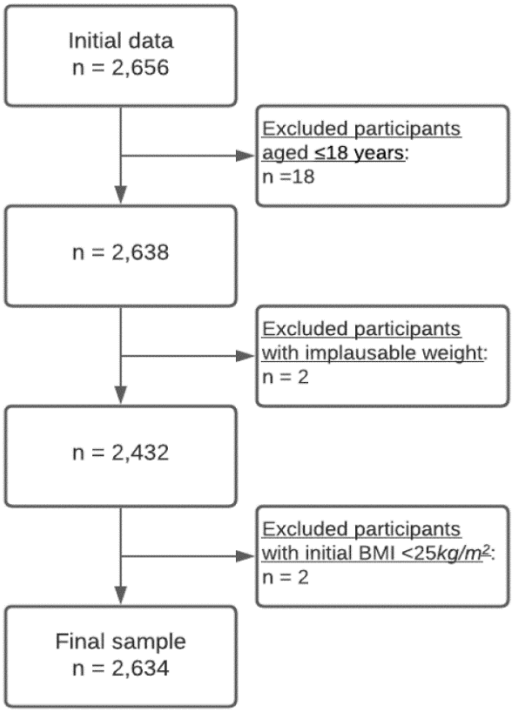
In addition to the Enhanced AWM programme, OLS has partnered with Slimming World to support overweight and people living with obesity in Suffolk to manage their weight. The cost of accessing Slimming World is subsidised and clients referred to Slimming World by OLS receive vouchers to access Slimming World services. Slimming World provides both weight management and maintenance programmes. The programme runs for 12 weeks followed by the weight maintenance programme which runs from 12 weeks to 12 months. The programme involves weekly drop-in support sessions over the period of the programme and an evaluation survey is conducted at the end of the programme.

Client Characteristics

Referrals

The initial dataset of the Slimming World Weight Management programme contained 2,656 clients. Out of these, 18 clients were aged 18 years or less, 2 clients had implausible weight change at 12 weeks and 2 clients had a normal initial BMI. The data for these clients were excluded.

Figure 18: Slimming World Weight Management referrals management process, 2019/20



Demographics

A total of 2,634 adults attended the Slimming World Weight Management services. A large proportion of clients were Female (85%), and the mean age of clients was 48.1 years.

Nearly a half (48.7%) of clients were from the 40% most deprived LSOAs of Suffolk and were predominantly White (95%). More than half of clients (52%) attended between 1-8 sessions (>0-<75% of all sessions) and 48% attended between 9-12 sessions (>75% of all sessions).

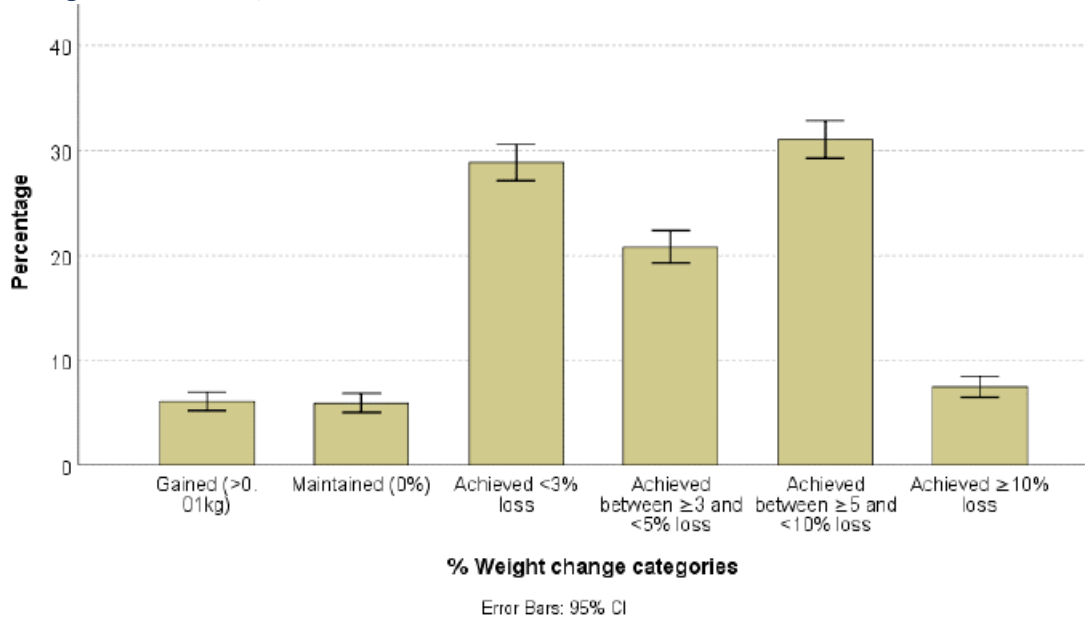
Table 11: Client characteristics, Slimming World Weight Management Services, 2019/20

			n (%)
Gender	Female		2233 (84.8)
	Male		401 (15.2)
IMD Quintile	1 (20% most deprived)		714 (27.1)
	2		569 (21.6)
	3		433 (16.4)
	4		446 (16.9)
	5 (20% least deprived)		458 (17.4)
	Missing		14 (0.5)
Ethnicity	White		2503 (95.0)
	Black		29 (1.1)
	Asian		19 (0.7)
	Mixed		37 (1.4)
	Any other		7 (0.3)
	Missing		39 (1.5)
Engagement	Non-completer		1372 (52.1)
	Completer		1262 (47.9)
Age (years)	Min = 19;	Max = 88	Mean ± SD = 48.14 ± 15.16

Health indicators

At the end of the programme, 6% of clients gained weight and approximately the same proportion of clients (6%) maintained their weight. Encouragingly, at the end of the programme the majority of clients (88%) lost some weight.

Figure 19: Percentage of weight change over course of programme, Slimming World Weight Management Services, 2019/20



Outcomes

An independent t-test revealed that, at the end of the programme, Completers (those who attended >75% of the sessions) achieved statistically significant greater favourable weight change, % weight change, % total weight change, and BMI change than the Non-completers (those who attended <75% of sessions).

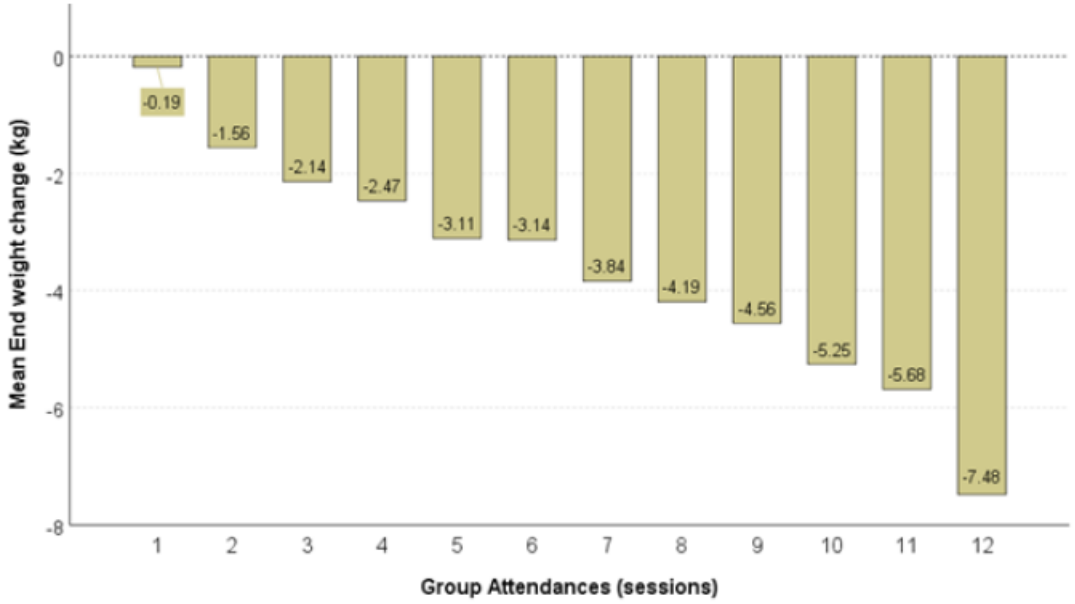
The analysis showed that attendance had a vital influence on the outcome of the programme (Figure 20). Clients who attended all 12 sessions of Slimming World Weight Management programme attained a mean weight loss of 8 kg which is more than two-fold the weight loss of those who attended 6 sessions.

Table 12: Independent t-test examining differences in programme outcome between Non-completers and Completers, Slimming World Weight Management Services, 2019/20

Engagement		Mean ± SD	t	df	*p*-value
End weight change (kg)	Non-completer	-2.58 ± 2.75	29.43	2632	<0.001
	Completer	-6.42 ± 3.90			
End % weight change	Non-completer	-2.48 ± 2.51	31.74	2632	<0.001
	Completer	-6.23 ± 3.50			
End BMI change (kgm^{-2})	Non-completer	-0.94 ± 0.98	30.44	2601	<0.001
	Completer	-2.35 ± 1.37			
End % BMI change	Non-completer	-2.50 ± 2.50	32.05	2601	<0.001
	Completer	-6.28 ± 3.46			

* *p*-value is significant at <0.05 level.

Figure 20: Bar chart of mean percentage weight change by attendance, Slimming World Weight Management Services, 2019/20



Suffolk's integrated healthy lifestyles commissioned services: children and young people

Child Weight Management Programme

The OneLife Suffolk child weight management programme service is commissioned to offer free, NICE compliant, fun, interactive and effective services for children and young people aged 4-18 years and their families, in a range of settings in the local community.

The programme provides a range of free offers including: a 10-week family service held at community settings such as schools, leisure centres and community centres; 6-week services held for families with children aged 2-4 years; and a healthy school service to support raising attainment and achievement by improving the health and wellbeing of pupils, staff and parents/carers.

All services are supported by a clear maintenance, follow-up, and support plan, signposting and discharge to community services using a community asset approach and social prescribing to ensure long-term sustainability of lifestyle change and social sustainability.

Summary

- The large proportion of the clients who attended 4-6-week (95%) and 10-week (86%) programmes were White.
- The average ages for the clients that attended 4-6 weeks and 10 weeks were 8.2 years and 9.9 years, respectively.
- Male to Female ratio was approximately 1:1 for both programmes.
- Less than half (43%) of 4-6-week programme clients and more than half (57%) of 10-week programme clients were from the 40% most deprived LSOAs of Suffolk.
- Overall, clients who attended a 4-6-week programme had more BMI SDS reduction compared to those who attended 10-weeks programme.
- Clients who attended the 4-6-week programme had a higher percentage attendance (87%) compared to those who attended the 10-week programme clients (42%).
- Noteworthy, changes in weight, BMI and BMI SDS were not statistically significantly different between females and males, or White and Non-White clients, as well as between IMD quintiles at the end of the programme compared to baseline in both programmes.

Client characteristics

Referrals

The programme had 2,085 clients in Year 4 (2019/20). The data were assessed for any spurious values like extremely high weight change and implausible values which were resolved by OLS data management team. Further data cleaning was performed, and no duplicates were detected. The data from all 2,085 clients were used for analysis.

Demographics

The large proportion of clients who attended 4-6 weeks (95%) and 10 weeks (86%) programmes were White. The mean ages for the clients attended 4-6 weeks and 10 weeks were 8.2 years and 9.9 years, respectively.

Male to Female ratio was approximately 1:1 for both school-based and community-based programmes.

Less than half (43%) of 4-6-week programme clients and more than half (57%) of 10-week programme clients were from the 40% most deprived LSOAs in Suffolk.

Table 13: Client characteristic, OneLife Suffolk Child Weight Management Programme, 2019/20

		Programme length		
		2-3 weeks	4-6 weeks	10 weeks
Ethnicity binary	White	7 (26)	1639 (95)	92 (86)
	Non-White	20 (74)	79 (5)	15 (14)
Gender	Female	9 (29)	957 (49)	61 (55)
	Male	22 (71)	982 (51)	50 (45)
IMD Quintile	1	6 (15)	373 (20)	49 (44)
	2	9 (23)	428 (23)	14 (13)
	3	1 (3)	394 (21)	14 (13)
	4	1 (3)	410 (22)	24 (22)
	5	22 (56)	238 (13)	10 (9)
Baseline Weight Category	Healthy range	0 (0)	1244 (69)	1 (1)
	Close to Overweight	2 (9)	117 (6)	3 (4)
	Overweight	20 (91)	140 (8)	2 (3)
	Very Overweight	22 (100)	310 (17)	73 (92)
Effect on BMI z score	Gained	15 (68)	474 (29)	13 (20)
	Maintained/Loss	22 (100)	1144 (71)	52 (80)
Age (years)		9.23 ± 2.31	8.17 ± 2.21	9.82 ± 2.52

Attendance

A total of 2,085 children attended the CWM services. The majority of the children (94%) attended 4-6 weeks of school-based programmes. Only 5% of children attended the 10-weeks community-based programme (Family clubs) and 1% attended the holiday clubs (Table 14). The 10-week Family clubs started towards the end of Year 4 (2019/20) which explains its small sample size and contribution in the analysed dataset.

Table 14: Programme length and number of attendees, OneLife Suffolk Child Weight Management Programme, 2019/20

Programme length (No. of sessions)	n (%)
2-3	22 (1)
4-6	1951 (94)
10	112 (5)
Total	2085 (100)

Health indicators

Overall, clients who attended 4-6-week programmes had a BMI SDS reduction of 0.09, while those who attended 10-week programmes had a BMI SDS reduction of 0.06.

When considering attendance, the 4-6-week programme clients had higher percentage attendance compared to 10-weeks programme clients.

Table 15: Outcome measures and attendance according to programme duration, OneLife Suffolk Child Weight Management Programme, 2019/20

	4-6 weeks		10 weeks	
	(Min; Max)	Mean ± SD	(Min; Max)	Mean ± SD
Baseline Weight	(12.9; 116)	31.55 ± 11.25	(23.2; 106.9)	59.13 ± 19.99
Baseline BMI	(1; 38.36)	17.61 ± 3.23	(17.7; 38.79)	26.92 ± 5.03
Baseline BMI SDS	(-8.41; 4.8)	0.52 ± 1.18	(0.87; 4.13)	2.76 ± 0.71
Baseline Centile	(0; 1)	0.63 ± 0.29	(0.81; 1)	0.99 ± 0.03
Final Weight	(12.9; 117.1)	31.59 ± 11.2	(23.2; 108)	58.2 ± 20.52
Final BMI	(9.96; 38.52)	17.47 ± 3.2	(17.7; 38.72)	26.42 ± 4.96
Final BMI SDS	(-8.03; 4.52)	0.44 ± 1.2	(0.9; 3.96)	2.69 ± 0.71
Final Centile	(0; 1)	0.6 ± 0.3	(0.82; 1)	0.98 ± 0.04
Weight change	(-19.3; 24.6)	0.19 ± 1.69	(-2.6; 4.5)	0.03 ± 1.08
BMI change	(-8.56; 14.2)	-0.12 ± 0.87	(-1.9; 1.25)	-0.19 ± 0.52
BMI SDS change	(-3.72; 4.49)	-0.09 ± 0.39	(-0.44; 0.18)	-0.06 ± 0.13
Centile change	(-0.50; 0.01)	-0.002 ± 0.01	(-0.94; 0.96)	-0.024 ± 0.11
Attendance (%)	(0; 100)	87 ± 25.23	(0; 100)	42.22 ± 37.27

Outcomes

4-6 week child weight management programme

A paired t-test showed a statistically significant decrease in weight, BMI, BMI SDS, and Centile at the end of the programme (Table 16).

However, no statistical significance was found between male and female, ethnic groups, and deprivation.

Table 16: Paired t-test comparing the effect of the programme on Weight, BMI, BMI SDS, and Centile, 4-6 week OneLife Suffolk Child Weight Management Programme, 2019/20

	Gender	Mean ± SD	t	df	p-value
Weight Change	Female	0.21 ± 1.88	0.390	1633	0.696
	Male	0.17 ± 1.49			
BMI Change	Female	-0.13 ± 0.99	-0.078	1633	0.938
	Male	-0.12 ± 0.75			
BMI SDS Change	Female	-0.09 ± 0.42	-0.605	1616	0.545
	Male	-0.08 ± 0.36			

* *p*-value is significant at <0.05 level.

10-week child weight management programme

A paired t-test showed no statistically significant decrease in weight which could be due to height gain by children over the course of the programme. Despite that, statistically significant reduction at the end of the programme was observed in BMI, BMI SDS and Centile (Table 17).

Similarly to the 4-6 week programme, no statistical significance was found between male and female, ethnic groups, and deprivation.

Table 17: Paired t-test comparing the effect of the programme on Weight, BMI, BMI SDS, and Centile, 10-week OneLife Suffolk Child Weight Management Programme, 2019/20

	Mean ± SD	t	df	*p*-value
Baseline Weight	58.18 ± 20.61	-0.195	64	0.846
Final Weight	58.20 ± 20.52			
Baseline BMI	26.60 ± 5.06	2.843	64	0.006
Final BMI	26.42 ± 4.96			
Baseline BMI SDS	2.75 ± 0.72	3.838	64	<0.001
Final BMI SDS	2.69 ± 0.71			
Baseline Centile	0.99 ± 0.03	2.008	64	0.049
Final Centile	0.98 ± 0.04			

* *p*-value is significant at <0.05 level.

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