

Family Weight Management: an analysis of 2016/17

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1. Key Findings

- There are a range of initiatives and support for families to support healthy weight.
- Family weight management services (Tier 2) are commissioned by Kent County Council and provide support to families with children with a body mass index above the 91st UK National BMI centile for clinical assessment. The Kent programmes typically cater for children aged 7 to 11 years.
- Nationally the prevalence of overweight and obesity in children and young people has been stable at a high level since 2010.
- Across Kent in 2016, the prevalence of overweight and obesity was higher in older than younger children. However, the reception figure was higher than the England average with an increasing trend, whereas, the Kent year six figure was lower than England with a stable trend:
 - 24.4% of reception children were overweight or obese (14.1%, 10.3% respectively)
 - 32.8% of year six children were overweight or obese (14.3%, 18.5% respectively)
- Analysis has been completed for a sample of referrals and initial assessments to family weight management services between 1st April 2016 and 31st December 2017 across Kent. The sample focuses on 308 child referrals and initial assessments for this period where data quality was good.
 - Most referrals to services and initial assessments were for children aged 9 to 12 years, White groups, residents in the most deprived areas and those obese at the start of the measurement process.
 - Overall 7.1% of participants achieved a body mass index z-score reduction, most (86.4%) participants successfully achieve maintenance. Substantial reductions within the short 10-12-week time frame may be difficult to achieve.
 - Children attending the Family Weight Management services had similar outcomes regardless of age, sex and ethnic group. Children resident in the most deprived decile were less likely to complete the full course of sessions. Overweight children were more likely to complete the full course and had better outcomes than children who were obese at the start.

Family Weight Management



Almost
1 in 4
reception children
were overweight
or obese in 2016



Almost
1 in 3
year six children
were overweight
or obese in 2016

Higher (than England) and **increasing**

Lower (than England) and **stable**

Family weight management services, commissioned by Kent County Council, provide support to achieve a healthy weight for families with **children aged 7 to 11 years**. **308** child **referrals & initial assessments** to family weight management services between 1st April 2016 and 31st December 2017 across Kent.



Referrals were
similar
across sex



Referrals were
lower
non-White groups and
the least deprived
areas



Referrals were
higher
for ages 9 to 12 years,
White groups, the
most deprived areas
and obese at start

Generally good equity of access.

72.4% of participants **completed** using end assessment weight as a proxy

86.4% of participants had **maintained** their body mass index z-score

7.1% of participants had **reduced** their body mass index z-score



Completion was
similar
across age, sex
and ethnicity



Completion was
lower
across the most
deprived areas



Completion was
higher
for those who were
overweight at start

Greater success

from higher body
mass index z-score
reductions in:



¹ Sources: National Child Measurement Programme, PHE, 2017; Kent Family Weight Management Providers, 2018

2. Aims

This report provides the national and local context in terms of the public health need arising from overweight and obese children. This report also details the range of services to support a healthy weight across Kent. This report will also present an analysis of the established family weight management services across Kent, with the objectives to:

- review the key population groups
 - referred to services and attending initial assessment
 - participating in sessions, from completion metrics²
 - achieving outcomes in terms of body mass index z-score change

Outcome metrics are aligned to those reported by the Department of Health³ and the National Institute for Health & Care Excellence:⁴

- Completer - participants who have attended at least 60% of sessions.
- Body Mass Index z-score change - this measures how many standard deviations a child or young person's BMI is away from the average for their age and gender.

*The realistic short-term aim is **weight maintenance** for positive impact on BMI in the **longer term**.*

*Outcome assessment usually aims for BMI z-score reduction at 1-year post completion. It has been acknowledged that 'most programmes run for around 8 to 12 weeks and – **substantial reductions in that time may be difficult to achieve.** (Ref 4, 3.34)*

² We used end of assessment weight as a completion proxy.

³ Department of Health (2013) Best practice guidance for weight management services.
<http://bit.ly/20qSBZS>

⁴ NICE (2013) Weight management: lifestyle services for overweight or obese children and young people. Guidance PH47
<http://bit.ly/2EKbgwV>

The National Institute for Health & Care Excellence⁵ and Public Health England⁶ recommend that lifestyle services for overweight or obese children and young people still growing taller aim to maintain existing weight, whereas, in young people no longer growing taller the aim may be for weight loss. Therefore, both approaches aim for improvement in Body Mass Index (BMI). They recommend the principles for weight management for children and young people should be;

- family-based and multi-component,
- meet the needs of local children and young people including those of different ages, stages of development and cultural background,
- developed by a multidisciplinary team and delivered by trained staff,
- incorporate behaviour change techniques, a tailored plan to meet individual needs, with ongoing support and follow-up

The National Institute for Health & Care Excellence⁸ reference a robust research protocol for an evaluation of family weight management interventions delivered over a year,⁷ this reports average BMI z-score reductions of 0.18 with key predictor variables including age, ethnicity, area deprivation, starting BMI, partial completion and programme group size. More recently there has been a systematic review which outlined the critical features of successful tier 2 family weight management services, who categorised body mass index z-score change into levels of effectiveness.⁸

⁵ NICE (2013) Weight management: lifestyle services for overweight or obese children and young people. Guidance PH47 <http://bit.ly/2EKbgwV>

⁶ Public Health England (2017) A guide to delivering and commissioning tier 2 weight management services for children and their families. <https://bit.ly/2uFUclE>

⁷ Fagg J et al (2014) From trial to population: a study of a family-based community intervention for childhood overweight implemented at scale. International Journal of Obesity, 38, 1343-1349

⁸ Sutcliffe, K., et al. (2017) What are the critical features of successful tier 2 lifestyle weight management programmes for children aged 0-11 years? London: EPPI Centre, SSRU, UCL.

3. Kent Services to Support Healthy Weight

This chapter provides a summary of the wide range of services that support healthy weight outcomes in children and young people.

Summary

There are a range of initiatives, opportunities and support for families to support healthy weight.

Early Years 0-5

This includes activities in settings such as children's centres and mandated visits as part of the health visiting service.

Children & Young People 5-19

This includes activities as part of the school nursing service, the mandated National Child Measurement Programme, proactive follow-up phone calls and packages of care for children and their families identified as being overweight or obese.

Family weight management services (Tier 2) are commissioned by Kent County Council and provide support to families with children with a body mass index above the 91st UK National BMI centile for clinical assessment. Commonly the Kent programmes are typically for children aged 7 to 11 years, often with flexibility to allow siblings outside of this age range to attend.

KCC also provides lifestyle advice and tier 2 adult programmes via the One You Kent banner. Supporting adults to adapt a positive lifestyle can support the whole family to make changes.

Campaigns & Work with Partners to Support Healthy Environments

Change4Life, Start4Life and One You Kent are the main brands used to support healthy lifestyles. These campaigns have key messages on healthy eating, being active and maintaining a healthy weight. Encouraging adults, parents and children to think about how they can make changes towards a healthy lifestyle.

3.1 Early Years 0-5

Kent County Council invests in [children's centres](#) located across the County, which provide information, advice and activities for local families. They actively promote public health messages and campaigns.

The Health Visiting service provides universal and targeted services to families expecting a new baby or those with children under 5 years old. The service aims to promote the health and wellbeing of all children and includes advice on a range of topics, including; breastfeeding, infant feeding, and child development. In addition, the Health Visiting service carry out a number of mandated visits at different stages of a baby or child's development where the child is weighed, and advice delivered or where applicable to support a healthy weight. Health visiting staff are trained to offer advice and activities are based on local need.

Kent County Council funds oral health services delivered by Kent Community Health Foundation Trust which includes a dental survey and health promotion work around sugar and the importance of a healthy diet. It is important that healthy weight messages are linked to messages about oral health as both of these areas impact on eating behaviours and the achievement of healthy weight.

3.2 Children & Young People 5-19

Kent County Council commissions Kent Community Health Foundation Trust to deliver the School Nursing service. This service provides advice, information, support and training to schools. The service carries out the mandated National Child Measurement Programme which includes proactive follow-up phone calls to offer support and guidance. This includes a lifestyle package of care for children identified as being overweight or obese and is a holistic offer of support for the child and family to support behaviour change.

3.2.1 Family Weight Management Services

Family weight management services (Tier 2) are commissioned in Kent and provide support to families with children with a body mass index above the 91st UK National BMI centile for clinical assessment. Commonly the Kent programmes are typically for children

aged 7 to 11 years, often with flexibility to allow siblings outside of this age range to attend.

A range of different multi-component programmes were delivered across Kent at the time of writing this report. These programmes address behaviour change in terms of dietary intake, physical activity levels and emotional wellbeing. The programmes deliver between 10-12 weekly or twice weekly programmes over a period of at least 3 months. Further programme characteristics are included in [Appendix A](#). The Kent programmes are broadly similar to the range of services across England mapped by Public Health England.⁹

The following family weight management services established across Kent have been included in this analysis:

Region	Provider	Programme
North Kent	Gravesham Borough Council	Don't Sit Get Fit
	Maidstone Borough Council	Go For It
	Sevenoaks District Council	Fun Fit & Active
	Tonbridge & Malling Borough Council	Learn Eat & Play (LEAP)
	Tunbridge Wells Borough Council	Learn Eat & Play (LEAP)
East Kent ¹⁰	Kent Community Health NHS	Ready Steady Go
	Foundation Trust	

⁹ Public Health England (2015) National mapping of weight management services: provision of tier 2 and tier 3 services in England. <http://bit.ly/2s1Yc1>

¹⁰ Includes the districts; Ashford, Canterbury, Dover, Shepway and Swale.

3.4 Campaigns

Change4Life and Start4Life are the main brands used to support healthy lifestyles for families, children and young people. One You Kent is the local version of the national brand aimed to support healthy lifestyles in adults. These campaigns have key messages on healthy eating, being active and maintaining a healthy weight. Encouraging adults, parents and children to think about how they can make changes towards a healthy lifestyle.

Kent County Council utilises the resources developed centrally by Public Health England, such as apps and videos to support effective behaviour change, and adds value via promotion of these on the [website](#) alongside additional locally targeted marketing. Materials are also distributed to community settings including children's centres and libraries to help spread awareness of the key messages.

3.5 Work with Partners to Support Healthy Environments

Kent County Council works closely with Districts and partners who play a key role in creating healthy communities to support environments that make it easier for families to make healthy choices. This includes work to influence planning and licensing within new developments e.g. to prevent fast food restaurants being opened in close proximity to schools.

3.5.1 Community activities

There is a huge range of activities for families in Kent that support active lifestyles. The Kent County Council [website](#) provides links to local activities or sites, such as Explore Kent. This enables you to search for local walks, cycle rides, country parks and outdoor activities in your local area. Whilst physical activity does not reliably affect body mass index, an active lifestyle will improve mental and physical health and compliment healthy eating advice.

4. Public Health Need

This chapter provides a summary of key national and local indicators for overweight and obesity prevalence in children and young people.

Key Findings

Health Survey for England

Nationally

- 27.7% of children aged between 2 and 15 were overweight or obese in 2016. This remains stable since 2010.
- 16.3% of children aged between 5 and 15 ate the recommended five portions of fruit and vegetables a day in 2016. This remains stable since 2010.
- 21.6% of children aged between 5 and 15 met the recommended 60 minutes of moderate to vigorous intensity physical activity on all seven days in 2015. This is lower than recording in 2008 and 2012.

National Child Measurement Programme

Across Kent and England, the prevalence of overweight and obesity in children was higher amongst older children (**year six**) than younger children (**reception**). Although in comparison to England, the Kent **year six** prevalence was lower with a stable trend, whereas, **reception** was higher with an increasing trend.

Across Kent in comparison to England;

- prevalence was similarly high in the Black group, but higher in the Asian group
- prevalence was similarly highest in those living in areas of deprivation
- the **year six** obesity inequality gap has been similarly increasing

In Gravesham the prevalence of overweight and obesity in **reception** was higher than Kent and England. For year six in Gravesham and Thanet, the prevalence of overweight and obesity are higher than Kent and England.

4.1 National & Local Prevalence

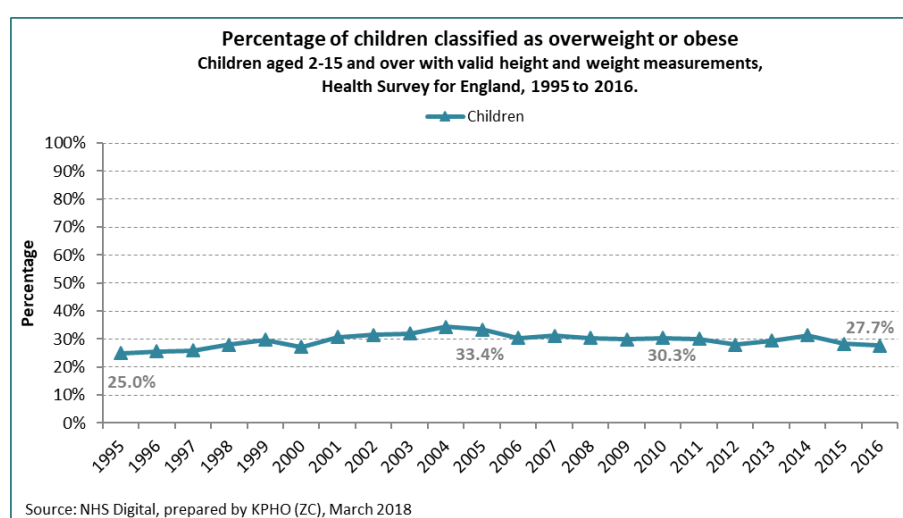
The following sources will be used to understand the national trend, contributing risk factors and local prevalence.

- The **Health Survey for England** has been carried out since 1994 so is key for monitoring trends in prevalence and contributing risk factors.
- The **National Diet and Nutrition Survey** which has been carried out since 2008 is a key data source for monitoring food consumption, nutritional intake and status.
- The **National Child Measurement Programme** local data are available since 2010/11 and is key for exploring inequalities by age, gender, ethnic group and deprivation.

4.1.1 National trend

The Health Survey for England¹¹ reports a national estimate for the percentage of children (aged 2-15) who are overweight or obese (above the 85th UK National BMI centile for population monitoring¹²), using height and weight measurements.

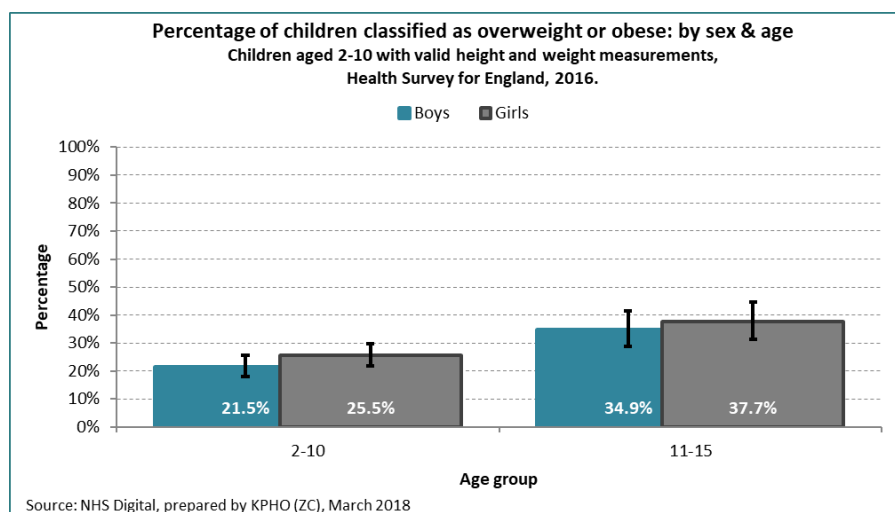
- In 2016, 11.7% of children aged between 2 and 15 were overweight and 16.0% were obese, with a combined prevalence of 27.7%. Overweight and obesity prevalence is not significantly different across boys and girls; 26.0% versus 29.5% respectively.
- The trend for children was increasing until 2005 and there is some evidence for a decreasing trend until 2010, since this has largely remained stable until 2016.



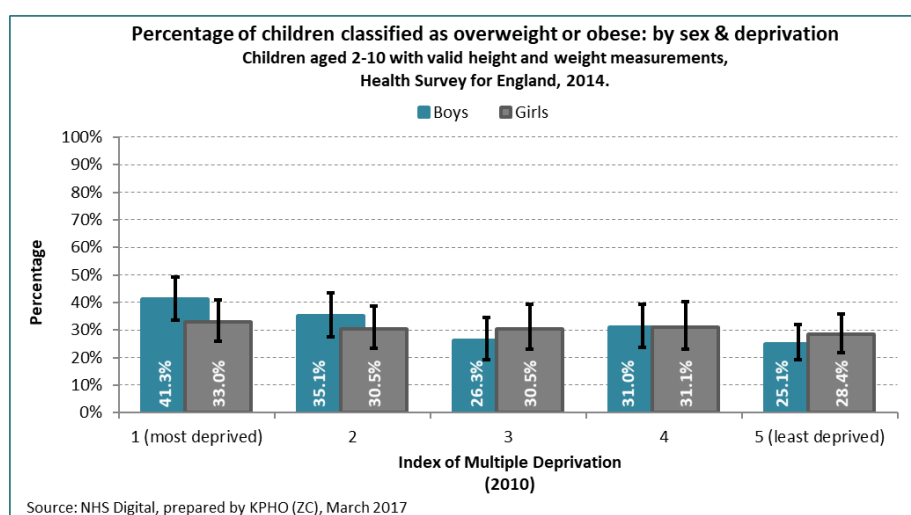
¹¹ NHS Digital (2017) Health Survey for England, 2016: trend tables. <http://bit.ly/2CA0TYr>

¹² Note different threshold used for clinical assessment: 91st centile overweight, 98th centile obese

- Overweight and obesity prevalence is higher amongst older children (ages 11-15) than younger children (ages 2-10) in 2016. The prevalence was similar across boys and girls when comparing across the same age groups.



- Overweight and obesity prevalence was greater among boys living in the most deprived quintile in comparison to the least deprived quintile.¹³ However, this pattern is not observed among girls.

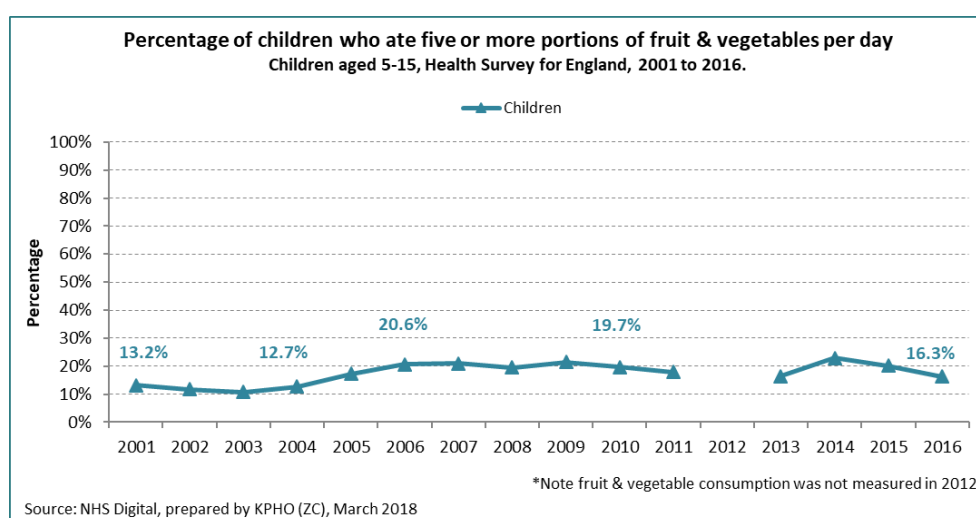


¹³ NHS Digital (2015) Health Survey for England, 2014 <http://bit.ly/2r71eOU>
(Note: deprivation not available within latest publication)

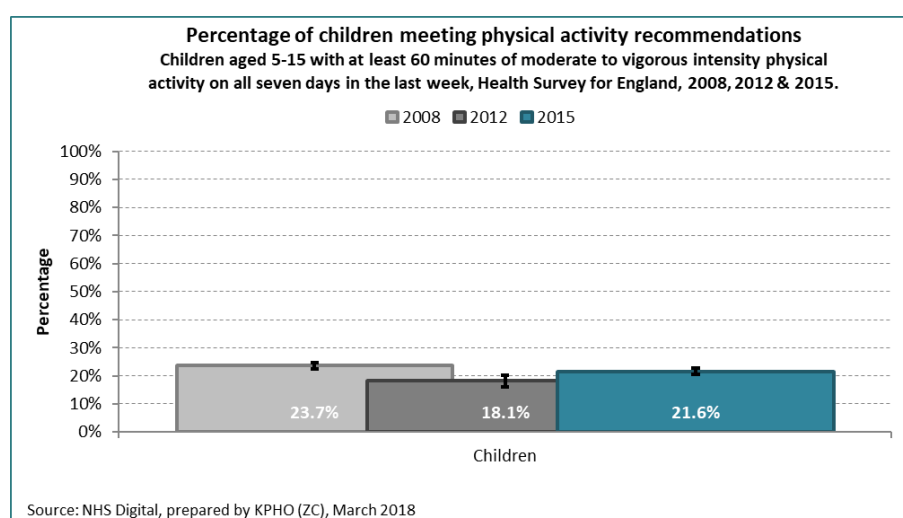
4.1.2 Contributing risk factors

The Health Survey for England¹⁴ provide statistics of fruit and vegetable consumption and physical activity levels.

- In 2016, 16.3% of children aged between 5 and 15 ate the recommended five or more portions of fruit and vegetables a day. The trend was stable until 2004 and there is some evidence of an increasing trend until 2006, since this has largely remained stable until 2010.



- In 2015, 21.6% of children met the recommendations for at least 60 minutes of moderate to vigorous intensity physical activity on all seven days. This was lower in 2012 and then increased in 2015, but did not reach earlier levels from 2008.



¹⁴ NHS Digital (2017) Health Survey for England, 2016: trend tables. <http://bit.ly/2CA0TYr>

The latest National Diet and Nutrition Survey collected from 2014/15-2015/16¹⁵ provide details on free sugar consumption:

- free sugar makes up 13.5% of 4-10-year-olds and 14.1% of teenagers (11-to18-year-olds) daily calorie intake respectively,
- whilst free sugar consumption has decreased since 2008/09-2009/10, the official recommendation is to limit sugar to no more than 5% of total energy intake,
- for teenagers, sugary drink intake is more than double that of younger children, providing 22% and 10% of total energy intake respectively

4.1.3 National Child Measurement Programme: local prevalence

The National Child Measurement Programme¹⁶ annually measures height and weight to provide data on the levels of overweight and obesity in reception (ages 4-5) and year six (ages 10-11) across state maintained schools in England.

A detailed Kent analysis has been included within local reports.¹⁷ & ¹⁸ The key findings for Kent can be summarised as follows:

- Overweight and obesity prevalence is higher amongst older children (**year six**) than younger children (**reception**) across Kent and England.
- In 2016 within Kent, 24.4% of children in **reception** were overweight or obese (14.1%, 10.3% respectively). Kent is higher than England whereby 22.6% were overweight or obese (13.0%, 9.6% respectively). Kent shows evidence of an increasing trend whereas England remains stable.
- In 2016 within Kent, 32.8% of children in **year six** were overweight or obese (14.3%, 18.5% respectively). Kent is lower than England, driven by the difference in obesity prevalence, whereby 34.2% were overweight or obese (14.3%, 20.0% respectively). Kent

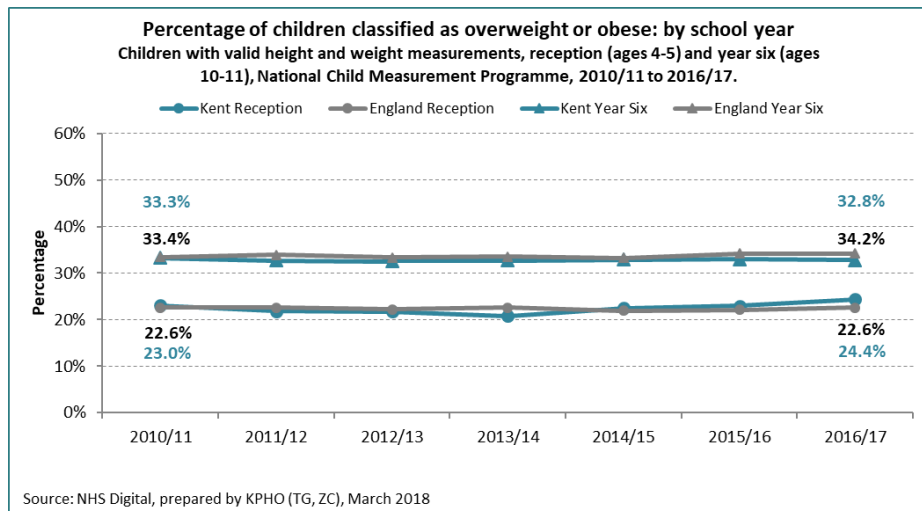
¹⁵ Public Health England (2018) National diet and nutrition survey: results from years 7 and 8 (combined) of the rolling programme 2014/2015 – 2015/2016. <https://bit.ly/2lxtD0s>

¹⁶ NHS Digital (2017) National Child Measurement Programme - England, 2016-17. <http://bit.ly/2gtRJ9X>

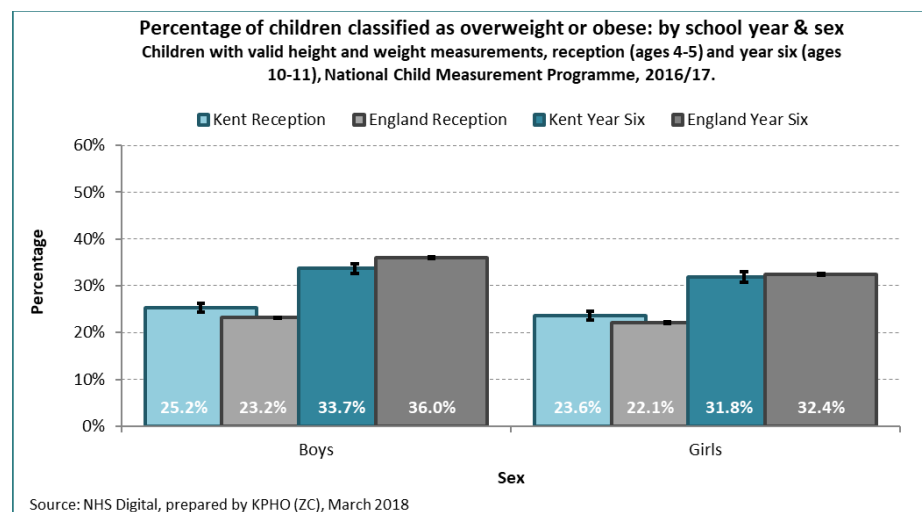
¹⁷ Kent Public Health Observatory (2017) National Child Measurement Programme data release 2016/17 <http://bit.ly/2ocRCQD>

¹⁸ Kent Public Health Observatory (2017) Inequalities in obesity & excess weight in childhood update 2016/17 <http://bit.ly/2okLUvo>

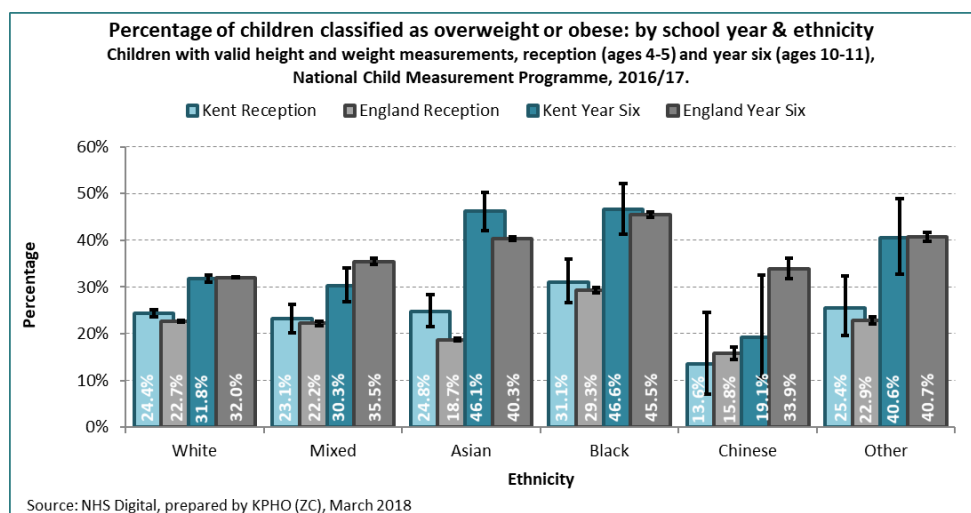
shows evidence of a stable trend whereas England shows evidence of an increasing trend.



- Across Kent, both boys and girls in **reception** had higher levels of overweight and obesity in comparison to England. Whereas, boys and girls in **year six** had lower or similar (respectively) levels of overweight and obesity in comparison to England.

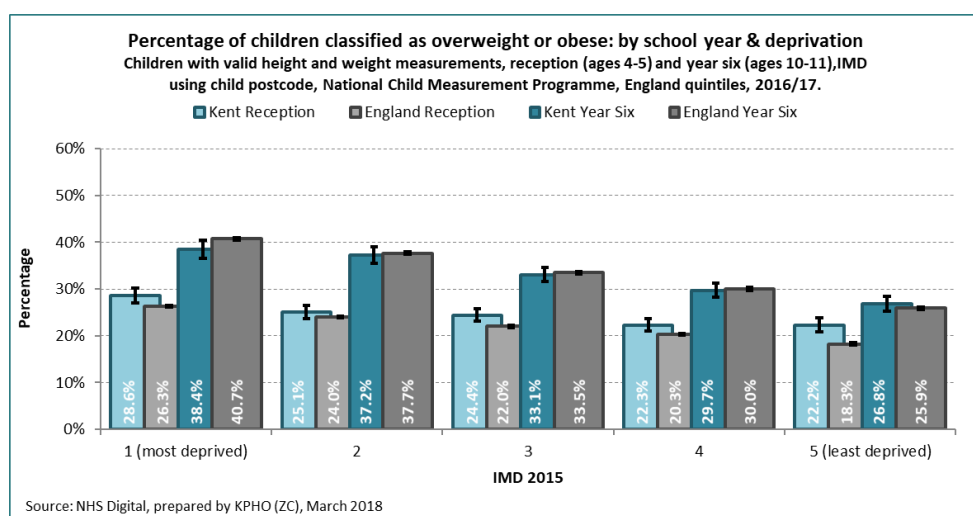
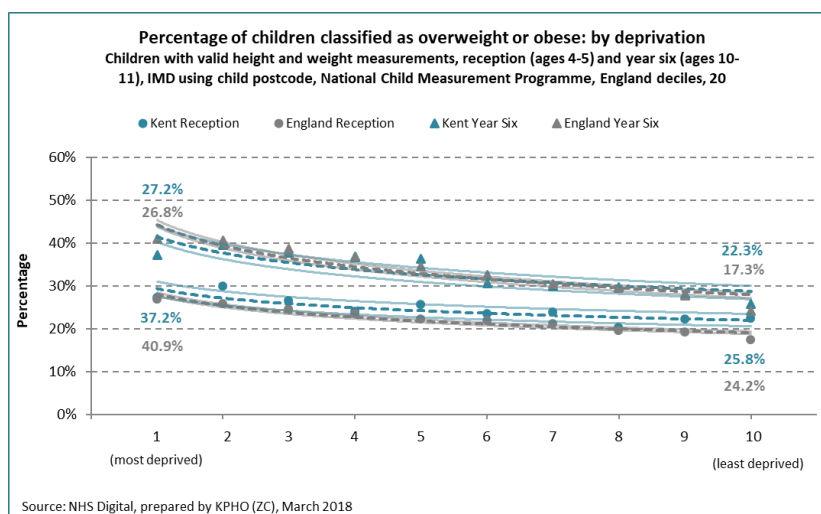


- Overweight and obesity prevalence is greatest within the Black group in both **reception** and **year six** across Kent and England. However, across Kent the prevalence is also greater within the Asian group in both **reception** and **year six** in comparison to England.¹⁹



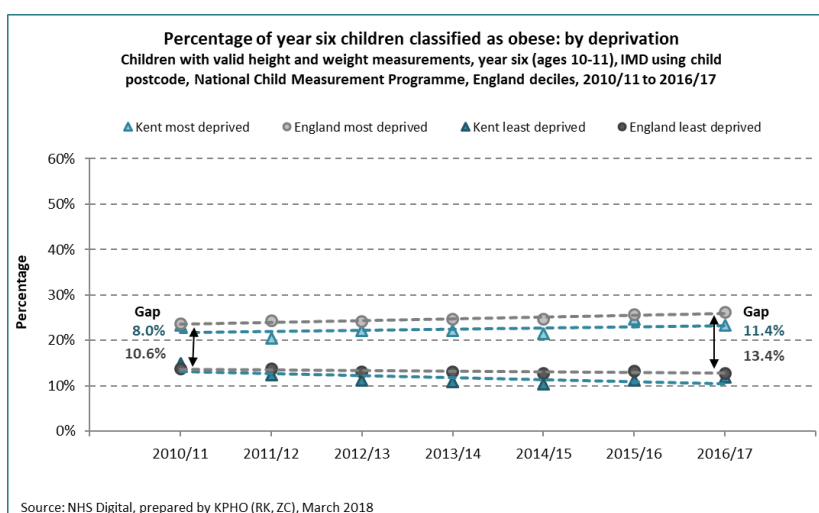
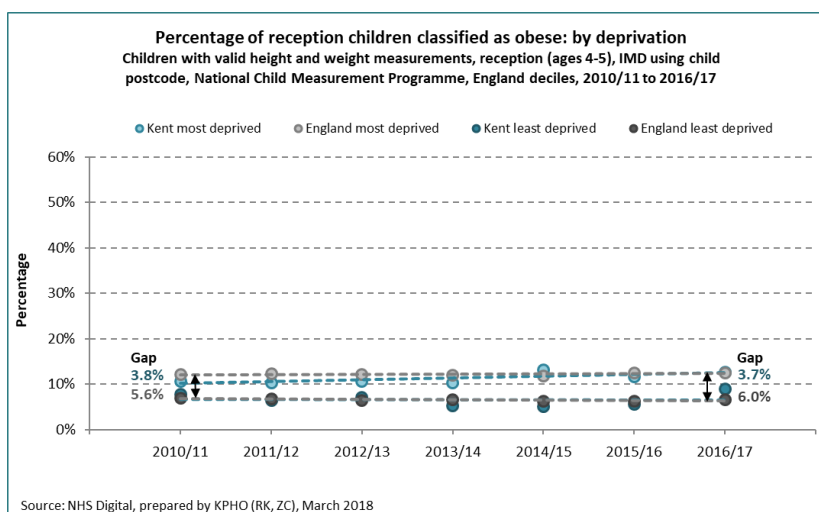
¹⁹ Note that across Kent 23.8% in reception year and 36.6% of year six had ethnicity group not stated. Across England 23.2% in reception year and 34.9% of year six had ethnicity group not stated.

- Overweight and obesity prevalence is higher in those living within the most deprived areas in comparison to those living in the least deprived areas across Kent and England.²⁰
- Kent **reception year** had higher levels of overweight and obesity across the majority of the deprivation groups in comparison to England. Kent **year six** had comparatively lower levels of overweight and obesity in the most deprived groups in comparison to England.



²⁰ Note: the indicators presented use England IMD deciles & quintiles for comparison between Kent & England.

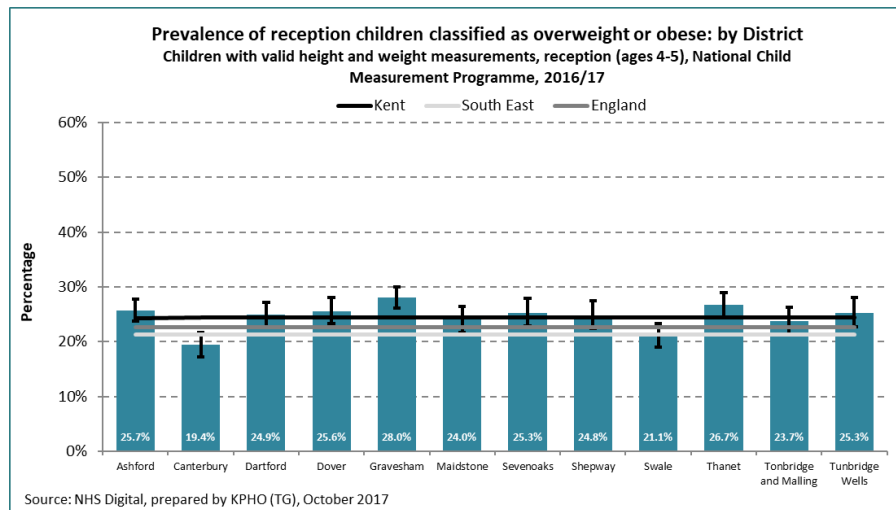
- The obesity²¹ inequality gap by deprivation²² in **reception** is stable across Kent, whereas, across England this shows some evidence of an increase.
- The obesity inequality gap by deprivation in **year six** has been increasing across Kent and England. This trend is driven by decreases in prevalence in the least deprived group, as well as, increases in prevalence in the most deprived group.



²¹ Obese - above the 95th UK National BMI centile for population monitoring

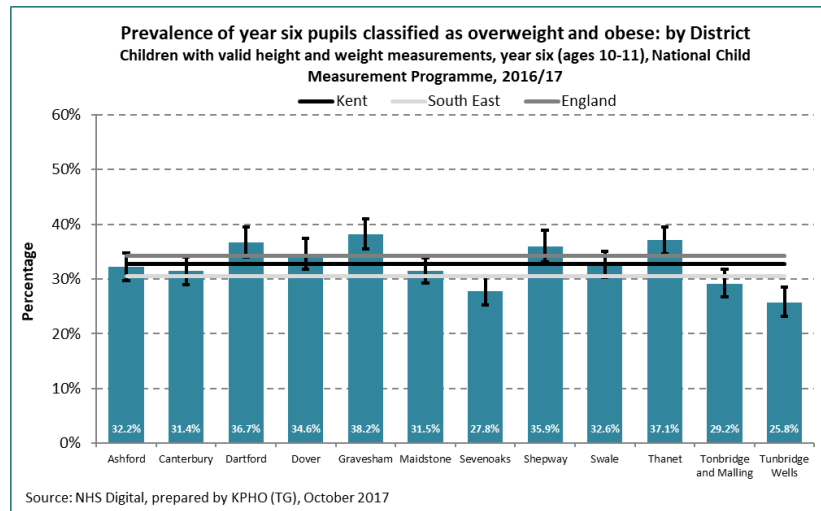
²² The difference between those living within the most deprived areas and those living in the least deprived areas.

- In general, overweight & obesity for **reception year children** is high across most of the Kent districts. However, prevalence was higher in Gravesham when comparing to Kent and England, whereas, Canterbury and Swale were lower than Kent and England respectively.



- A detailed trend analysis of **reception year children** overweight and obesity by district has been included within the [local report](#), but can be summarised as:
 - The Ashford prevalence has increased from 21.1% in 2010/11.
 - The Gravesham prevalence has increased from 24.2% in 2010/11.
 - The Sevenoaks prevalence has increased from 20.5% in 2010/11.
 - The Thanet prevalence has increased from 20.0% in 2011/12.
 - The Tonbridge & Malling prevalence has increased from 19.6% in 2011/12.
 - The Tunbridge Wells prevalence has increased from 23.0% in 2010/11.
 - The prevalence remains at a similar level to that recorded in 2010/11 within the following districts; Canterbury, Dartford, Dover, Maidstone, Shepway, Swale.

- In general, overweight & obesity for **year six children** is high across most of the Kent districts. However, prevalence was higher in Dartford, Gravesham, Shepway and Thanet when comparing to Kent. But only Gravesham and Thanet were higher than England. Sevenoaks, Tonbridge & Malling and Tunbridge Wells were lower than Kent and England.



- A detailed trend analysis of **year six** overweight and obesity by district has been included within the [local report](#), but can be summarised as:
 - The Gravesham prevalence has increased from 33.5% in 2010/11.
 - The Tonbridge & Malling prevalence has decreased from 33.1% in 2011/12.
 - The prevalence remains at a similar level to that recorded in 2010/11 within the following districts; Ashford, Canterbury, Dartford, Dover, Maidstone, Sevenoaks, Shepway, Swale, Thanet.
 - The Tunbridge Wells prevalence remains similar to that recorded in 2011/12 at 27.7%.

4.2 What does the evidence say?

Now more than ever before, younger generations are experiencing greater exposure to overweight, obesity and risk factors across their lives. This can be evidenced from an analysis of birth cohort studies carried out since 1946 where researchers found that more recent generations are firstly more likely to become overweight or obese and, that this is more likely to occur at younger ages than in previous generations.²³

Whilst the central cause of obesity is high energy intake and low levels of physical activity, there are a wide range of factors that influence obesity, which have been outlined within '*Tackling Obesities: Future Choices*'.²⁴ Public Health England²⁵ have outlined the main risk factors for children occurring in the households they are born into and grow up in, including;

- the prevalence of overweight and obesity is high in adults²⁶ and in women of childbearing age²¹
- parents who are overweight or obese have children with a higher risk of obesity²⁷
- it can be challenging for parents to identify that their child is overweight or obese²⁸
- children who are overweight or obese are more likely remain overweight or obese as an adult²⁹

²³ Johnson W et al. (2015) How has age-related process of overweight or obesity development changed over time? Co-ordinated analyses of individual participant data from five United Kingdom birth cohorts. PLoS Med 12(5) e1001828

²⁴ Government Office for Science (2007) Foresight. Tackling obesities: future choices – project report. <http://bit.ly/1RMduJC>

²⁵ Public Health England (2015) Childhood obesity: applying All Our Health. <http://bit.ly/2m1xHos>

²⁶ NHS Digital (2017) Health Survey for England, 2016: trend tables. <http://bit.ly/2CA0TYr>

²⁷ Lake JK, Power C, & Cole TJ. (1997) Child to adult body mass index in the 1958 British birth cohort: associations with parental obesity. Arch Dis Child 77 376-381

²⁸ Lundahl A, Kidwell KM & Nelson TD (2014) Parental underestimates of child weight: a meta-analysis. Paediatrics 133(3) e689-e703

²⁹ Serdula MK et al (1993) Do obese children become obese adults? A review of the literature. Prev Med, 22(2) 167-77

5. Analysis of Family Weight Management Service

This chapter provides a summary of key participation and outcome metrics for the Family Weight Management Services across Kent.

Key Findings

Referral to Services & Initial Assessment

Overall, there were greater referrals to services and initial assessments for;

- those aged between 9 and 12 years
- those of White ethnicity
- those resident within the most deprived areas
- those obese at initial assessment

Referrals to services and initial assessments were consistent across sex with similar levels by males and females. Generally, there was good equity of service access in comparison to public health need.

Securing Good Outcomes

Completion and body mass index z-score change was consistent across the different categories of age, sex and ethnicity. There was evidence for lower completion within those living in the most deprived areas. And higher completion within those who were overweight at initial assessment. There was evidence for greater success of reducing body mass index z-scores among those who were overweight at initial assessment and residents in the least deprived groups.

5.1 Approach

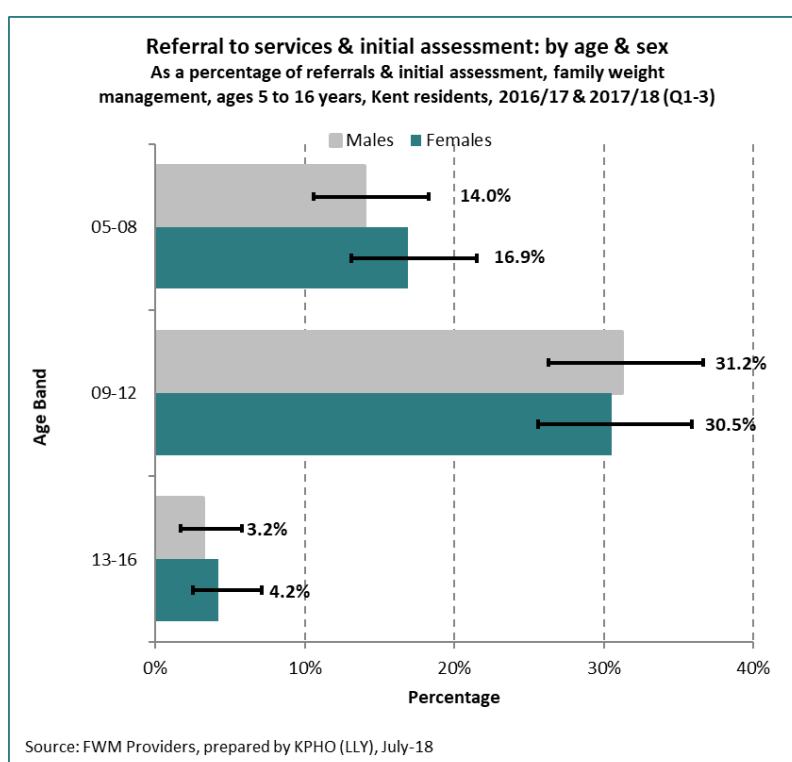
The original dataset was reduced to a sample where data quality was good ([Appendix B](#)). There were 308 remaining records that were referred and seen for initial assessment. For records where a final body mass index was not recorded the observation at initial assessment was carried forward for analysis. It is known that missing outcome data has the potential to influence findings³⁰ and this has been considered throughout.

5.2 Referral & Initial Assessment

The analysis considers; age, sex, ethnicity, deprivation, acorn and start body mass index.

5.2.1 Referral & Initial Assessment: by Age & Sex

Of those referred and seen for initial assessment 149 (48.4%) were male and 159 (51.6%). Referrals and initial assessments were higher for those aged between 9 and 12 years, but it is important to acknowledge that the programmes are typically for children aged 7 to 11 years.



³⁰ Dong, Y & Peng, CYJ (2013) Principled missing data methods for researchers. *Springer Plus*, 2, 222, 2-17

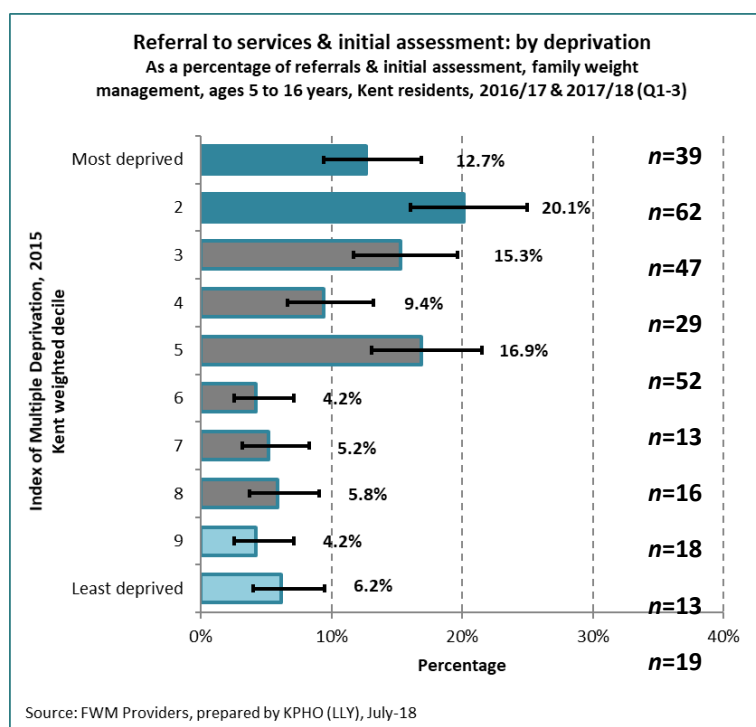
5.2.2 Referral & Initial Assessment: by Ethnicity & Deprivation

- The White ethnic group had the highest referrals and initial assessment. However, over 20% of the sample did not have an ethnic group stated, suggesting poor data quality.
- Proportionately, there were more referrals within residents from deprived areas when compared with less deprived localities. Further, a statistically significant difference in referrals from the most deprived quintile in Kent.

Table 1: Referral to services & initial assessment: by ethnic group.

Kent			
Ethnic group	n	%	
White	190	61.7%	
Not known/ stated	71	23.1%	
Black	26	8.4%	
Asian	15	4.9%	
Mixed & Other	6	1.9%	
Total	308		

Source: FWM Providers, prepared by KPHO (LLY), July 2018



5.2.3 Referral & Initial Assessment: by Start BMI

- Referral and initial assessment were highest for those obese at initial assessment.

Table 2: Referral to services & initial assessment: by start BMI.

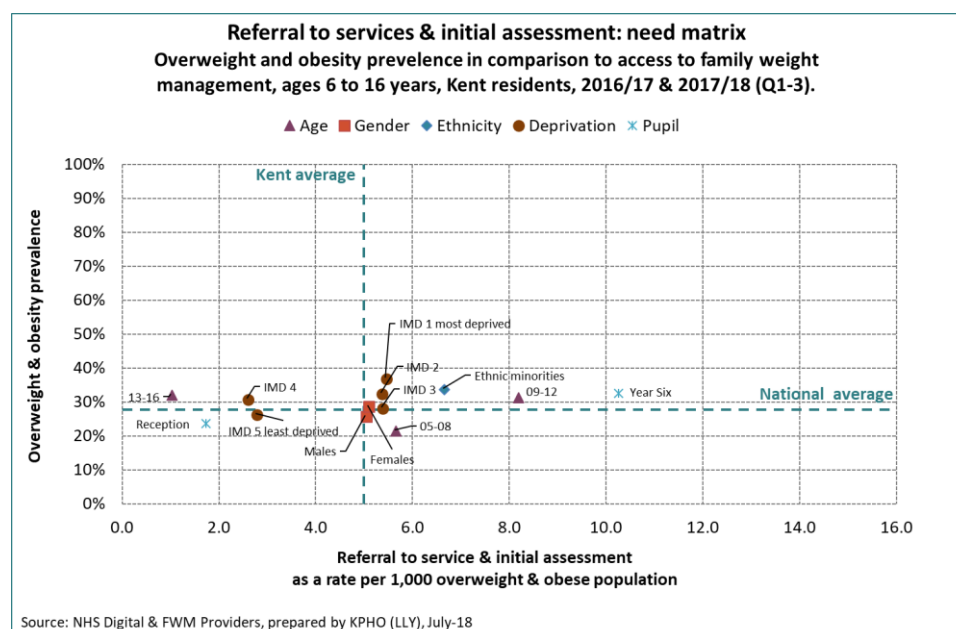
Initial BMI		<i>n</i>	Kent %
Overweight	≥ 91st UK BMI centile	81	26.3%
Obese	≥ 98th UK BMI centile	227	73.7%
Total		308	

Source: FWMW Providers, prepared by KPHO (LLY), July 2018

Note: percentages may not sum due to rounding.

4.1.5 Referral & Initial Assessment: Need Matrix

The quadrant chart shows how referral to services and initial assessment performs against need and shows good equity of access. Need has been represented by national overweight and obesity prevalence in children³¹ on the vertical axis. Referral to services and initial assessment has been represented as a percentage of the estimated overweight and obese population, on the horizontal axis.

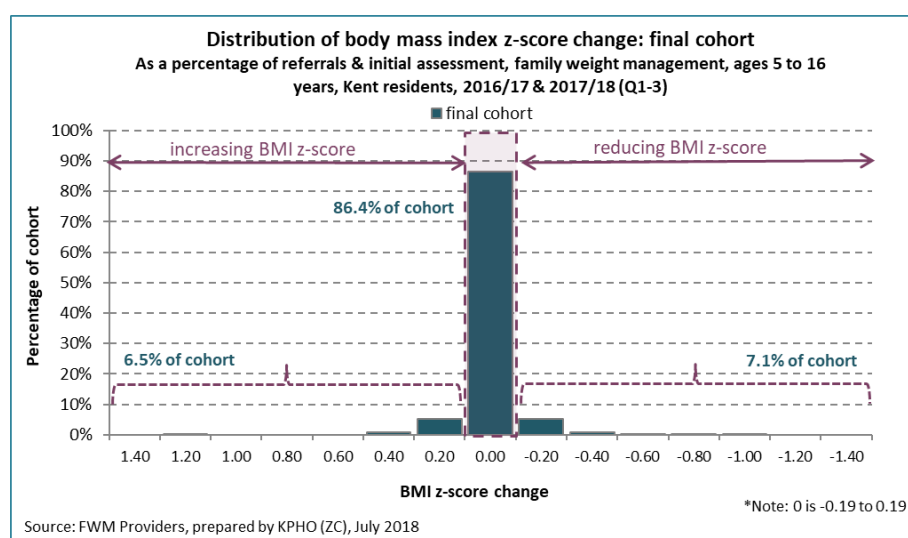


³¹ Prevalence source: Health Survey for England, 2016, combined prevalence 5 to 16 years. Same source used for age and gender estimates – closest age bands were used.

5.3 Securing Good Outcomes

Overall, 223 participants completed the course, 72.4% of the original 308 referred and seen for initial assessment. This was higher than the recommended 60% referred to within best practice guidance.

- 6.5% ($n=20$) of participants showed an increase in body mass index z-score
- 86.4% ($n=266$) of participants achieved body mass index z-score maintenance
- 7.1% ($n=22$) of participants achieved a body mass index z-score reduction



This chapter sets out the body mass index z-score change outcome by key variables including; age, sex, ethnicity, deprivation and start body mass index.

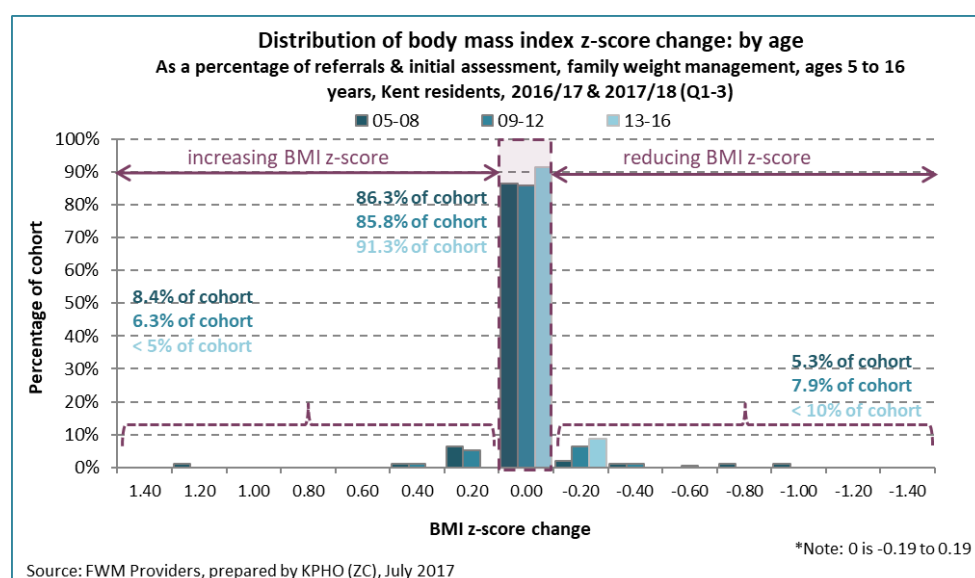
5.3.1 Securing Good Outcomes: by Age

There wasn't any difference in the percentage completing the full course by age.

Statistic	Age group		
	05-08	09-12	13-16
Referred & seen for initial assessment (n)	95	190	23
Percentage completing (Kent, 57.7%)	69.5% n=66	74.2% n=141	69.6% n=16
Percentage maintaining or losing	91.6% (Kent, 93.5%) n=87	93.7% n=178	100% n=23

Note: n – number, **significantly different to Kent average,

Body mass index z-score change did not vary by age;



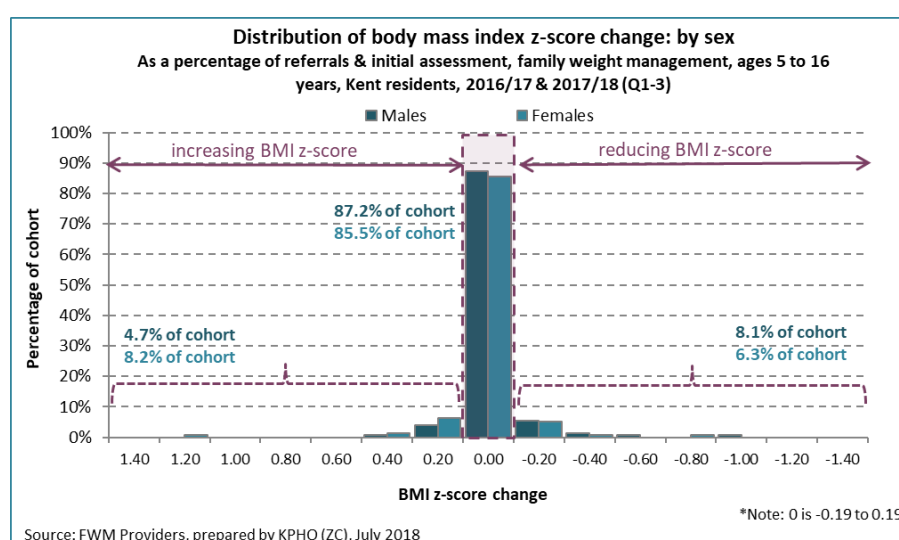
5.3.2 Securing Good Outcomes: by Sex

There was not any difference in the percentage completing the full course by sex.

Statistic	Sex	
	Males	Females
Referred & seen for initial assessment (n)	149	159
Percentage completing (Kent, 57.7%)	73.8% n=110	71.1% n=113
Percentage maintaining or losing (Kent, 93.5%)	95.3% n=142	91.8% n=146
Percentage losing (Kent, 7.1%)	8.1% n=12	6.3% n=10

Note: n – number, **significantly different to Kent average,

Body mass index z-score change did not vary by sex;



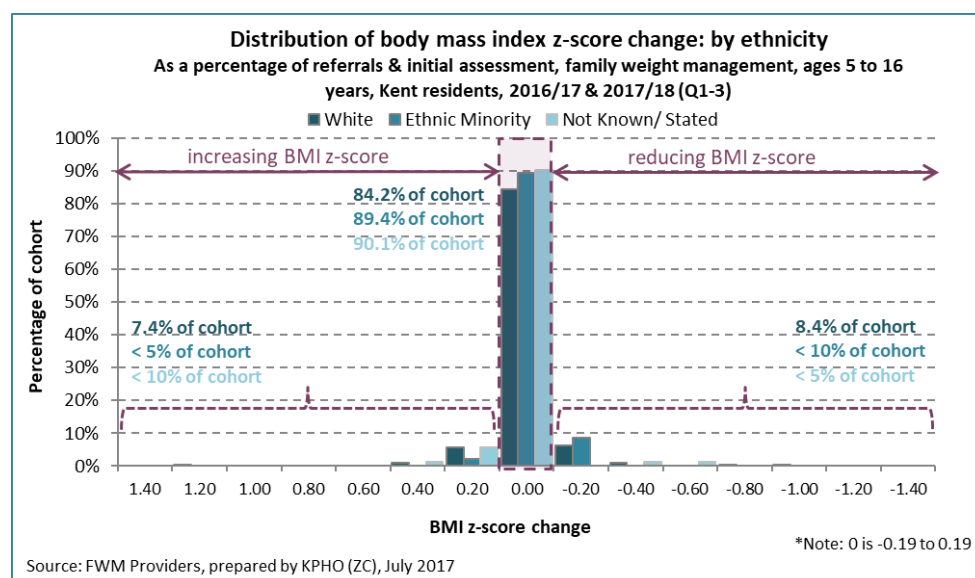
5.3.3 Securing Good Outcomes: by Ethnicity

There wasn't any difference in the percentage completing the full course by ethnicity.

Statistic	Ethnicity		
	White	Ethnic Minority	Not Known/ Stated
Referred & seen for initial assessment (n)	190	47	71
Percentage completing (Kent, 57.7%)	73.7% n=140	76.6% n=36	66.2% n=47
Percentage maintaining or losing (Kent, 93.5%)	92.6% n=176	97.9% n=46	93.0% n=66

Note: n – number, **significantly different to Kent average,

Body mass index z-score change did not vary by ethnicity;



5.3.4 Securing Good Outcomes: by Deprivation

There was some variation in the percentage completing the full course by deprivation. Those resident within the most deprived decile were less likely to complete the full course. Analysis of body mass index z-score outcomes used quintiles of deprivation due to small numbers.

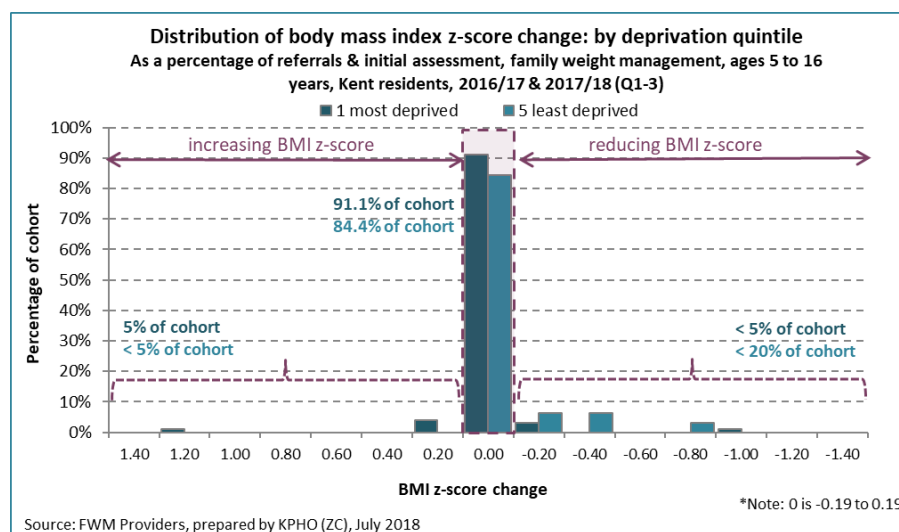
IMD 2015 Kent Weighted Decile		
Statistic	1 most deprived	10 least deprived
Referred & seen for initial assessment (n)	39	19
Percentage completing (Kent, 57.7%)	53.8%** n=21	78.9% n=15

Note: n – number, **significantly different to Kent average,

IMD 2015 Kent Weighted Quintile		
Statistic	1 most deprived	5 least deprived
Referred & seen for initial assessment (n)	101	32
Percentage maintaining or losing (Kent, 93.5%)	95.0% n=96	100% n=32

Note: n – number, **significantly different to Kent average,

There was some evidence that body mass index z-score change varied by deprivation; residents in the least deprived quintile were more likely to reduce their BMI z-score in comparison to the most deprived quintile. Whereas, residents in the most deprived quintile were more likely to have an increasing BMI z-score in comparison to the least deprived quintile. However, consideration needs to be given to small numbers.



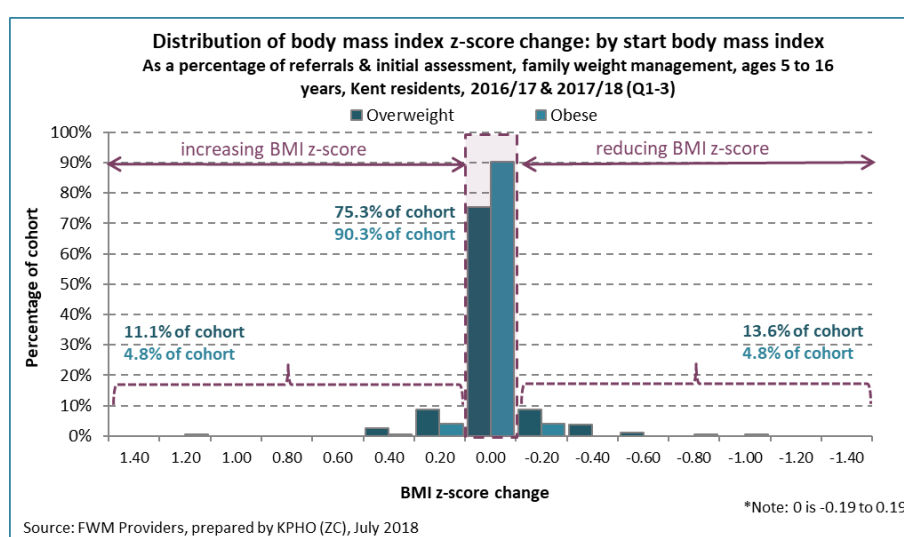
5.3.5 Securing Good Outcomes: by Start Body Mass Index

There was some variation in the percentage completing the full course by start body mass index. Those overweight at start were more likely to complete the full course. Analysis of body mass index z-score outcomes did vary by start body mass index, those overweight at start were more likely to be reducing their body mass index z-scores.

Statistic	Start BMI	
	Overweight	Obese
Referred & seen for initial assessment (n)	81	227
Percentage completing (Kent, 57.7%)	85.2%** n=69	67.8% n=154
Percentage maintaining or losing (Kent, 93.5%)	88.9% n=72	95.2% n=216
Percentage losing (Kent, 7.1%)	13.6%** n=11	4.8% n=11

Note: n – number, **significantly different to Kent average,

Body mass index z-score change did vary by start BMI; those obese at initial assessment were more likely to maintain their BMI z-score in comparison to those who were overweight. Also, those overweight at initial assessment were more likely to reduce their BMI z-score in comparison to those who were obese. This is likely to be related to those overweight at initial assessment being more likely to complete.



5. Conclusions

Analysis has been completed for a sample of referrals and initial assessments to family weight management services between 1st April 2016 and 31st December 2017 across Kent. The sample focuses on 308 child referrals and initial assessments for this period where data quality was good.

Overall, most of referrals and initial assessments were for those aged between 9 to 12 years, White groups, those resident in the most deprived areas, obese at initial assessment, as well as, the comfortable communities and urban adversity Acorn groups. Generally, there was good equity of access in relation to public health need, with services specifically designed to target children aged 7 to 11 years. A Public Health England evidence review has found that the facilitators for continued engagement with services were social support, as well as, convenient, relevant and supportive programmes.³² Children attending the Family Weight Management services had similar outcomes regardless of age, sex and ethnic group. Children resident in the most deprived decile were less likely to complete the full course of sessions. Overweight children were more likely to complete the full course and had better outcomes than children who were obese at the start.

Whilst only 7.1% of participants achieved a body mass index z-score reduction, most participants successfully achieve maintenance. Substantial reductions within the short 10-12-week time frame may be difficult to achieve. Furthermore, an unpublished analysis of additional outcomes for a single provider with good data quality has provided evidence for positive behavioural change in terms of activity levels and fruit and vegetable consumption. Change in body mass index z-score did not significantly differ by age, sex or ethnicity. Those resident in the least deprived areas or overweight at initial assessment were more likely to have reducing body mass index z-scores. Whereas, those who were obese were more likely to be maintaining their body mass index z-score. Although, our findings were not similar to a study that found greater success within those with higher baseline body mass index values at initial assessment,³³ our findings may reflect the greater challenges facing these groups.

³² Public Health England (2018) Uptake and retention in group-based weight management services. London: Public Health England

³³ Fagg J et al (2014) From trial to population: a study of a family-based community intervention for childhood overweight implemented at scale. *International Journal of Obesity*, 38, 1343-1349

Further work is needed to support more children in Kent maintain a healthy weight and reduce the increase in weight seen between reception and year 6. Given the scale of the problem and difficulties recruiting and maintaining participants into specific programmes Kent will need to continue to review latest evidence, user feedback and data to provide the most appropriate support. Universal provision, campaigns, adult programmes and work to create healthy environments all play a value part alongside specific tailored interventions in this agenda.

Appendix A: Programme Characteristics

The following tables present a summary of the family weight management programme characteristics.

Dartford Borough Council, Gravesham Borough Council	
Don't Sit, Get Fit – Dynamo Club	
core staff	Sessions are run by an activity coordinator and registered nutritionist.
locations & setting	Delivered at Healthy Living Centres across Dartford and Gravesham Borough
programme characteristics	<p>This involves 12 group-based sessions with a duration of 1 hour 30 minutes.</p> <p>This provides both a universal health promotion approach in schools and the local community, as well as, a tier 2 focused intervention for children and young people who have a BMI greater than the 91st centile and below the 98th centile.</p> <p>A multicomponent service with a focus on nutrition and physical activity to support healthier choices.</p>

Maidstone Borough Council	
Go for It	
core staff	Sessions are run by a clinical exercise physiologist and nutritionist.
locations & setting	This is held at Zeroth Activity Centre in Maidstone.
programme characteristics	<p>This involves 10-12 group-based weekly sessions with a duration of 1 hour 30 minutes. One-to-one sessions also available.</p> <p>A tier 2 focused intervention for children and young people who have a BMI greater than the 91st centile.</p> <p>A multicomponent family-based service with a focus on nutrition, physical activity and emotional wellbeing to support healthier choices. Includes a mixture of activities and workshops.</p>

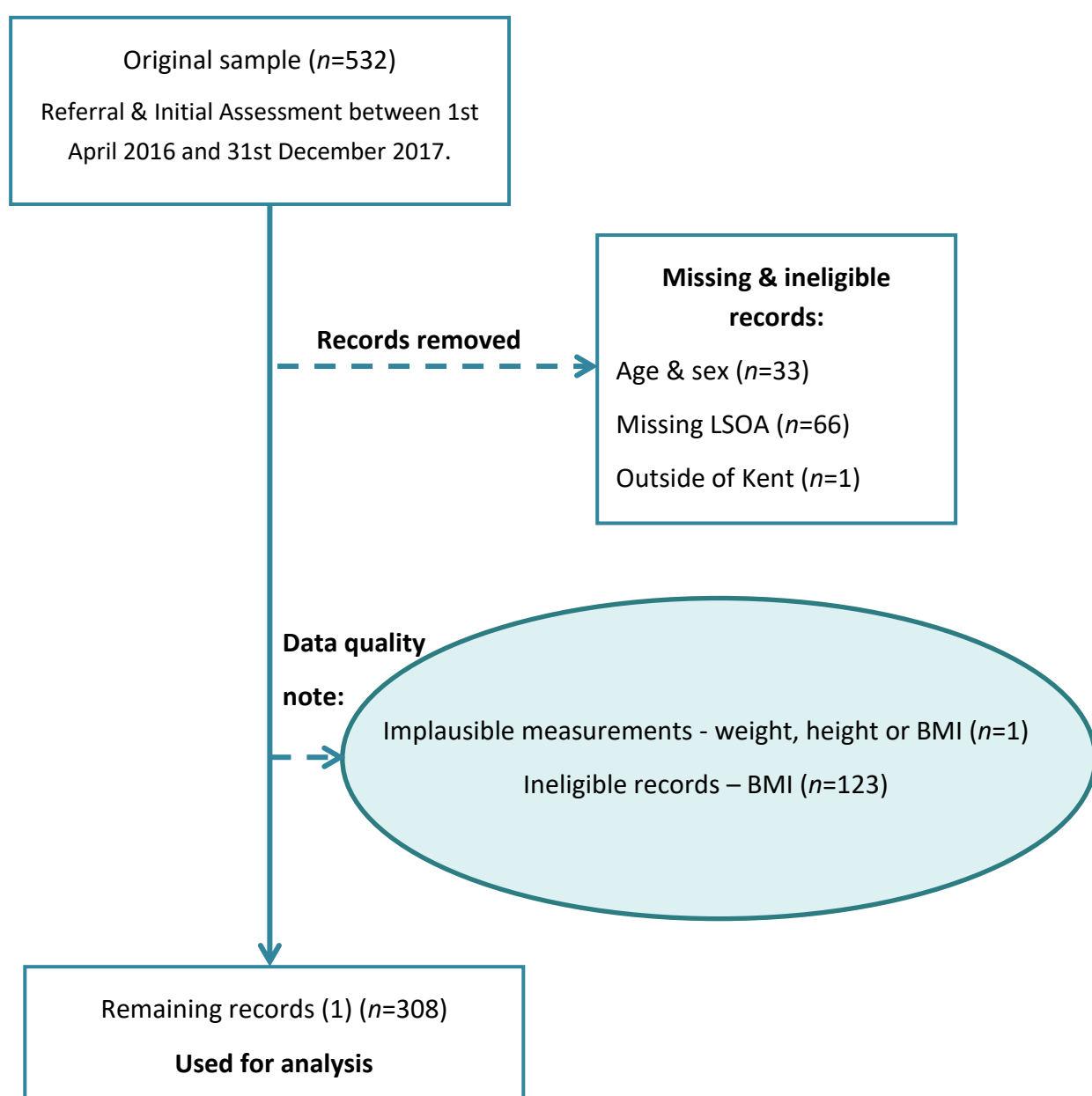
Sevenoaks District Council	
Fun, Fit and Active	
core staff	
locations & setting	Delivered at venues across Sevenoaks District.
programme characteristics	<p>This involves 10 group-based weekly sessions with a duration of 1 hour 30 minutes.</p> <p>This provides both a universal health promotion approach with targeted schools, linked to a tier 2 focused intervention for children and young people who have a BMI greater than the 91st centile and below the 98th centile.</p> <p>A multicomponent family-based service with a focus on nutrition and physical activity to support healthier choices.</p>

Tonbridge & Malling Borough Council, Tunbridge Wells Borough Council	
Learn Eat & Play (LEAP)	
core staff	Sessions are run by a nutritionist.
locations & setting	Delivered at venues across Tonbridge & Malling and Tunbridge Wells Borough.
programme characteristics	<p>This involves 8-10 group-based weekly sessions with a duration of 1 hour. One-to-one sessions also available.</p> <p>A tier 2 focused intervention for children and young people who have a BMI greater than the 91st centile.</p> <p>A multicomponent family-based service with a focus on nutrition, physical activity and behaviour change to support healthier choices. Includes a mixture of activities and workshops.</p>

Kent Community Health NHS Foundation Trust	
Ready Steady Go	
core staff	Sessions are run by a nutritionist.
locations & setting	Delivered at venues across East Kent.
programme characteristics	<p>This involves 10-12 group-based weekly sessions with a duration of 1 hour. One-to-one sessions also available.</p> <p>A tier 2 focused intervention for children and young people who have a BMI greater than the 91st centile.</p> <p>A multicomponent family-based service with a focus on nutrition, physical activity and behaviour change to support healthier choices. Includes a mixture of activities and workshops.</p>

Appendix B: File development

The dataset was prepared using the steps detailed below and is understood to represent; children accessing family lifestyle weight management services across Kent between 1st April 2016 and 31st December 2017. The sample was restricted to children aged between 5 and 19 years old. Measurements were considered implausible if they were six standard deviations away from the UK 1990 growth reference. Body mass index measurements used the cut offs for clinical assessment the 91st centile for overweight and the 98th centile for obesity. Therefore, measurements were considered ineligible if they did not indicate overweight or obesity.



All records retained for analysis using baseline observation carried forward for missing data.