

Analysis of the 2016 Change4Life Sugar Smart Campaign in Kent

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| 1. Executive Summary

1.1 Key Findings

1.1.1 Sugar Smart Uptake & Reach

- There is generally higher uptake from greater numbers of registrations within wards with highest numbers of families with youngest child aged under 10.
- In 2016, there were 1,788 registrations to Sugar Smart across Kent. This is in the context of a target population of 111,186 families with youngest child aged under 10. Overall, we can estimate that 1.6% of the Kent families, with at least one child aged under 10, may have registered for Sugar Smart, 2016.
- Across the Kent districts, higher levels of uptake, in terms of registrations by families with youngest child aged under 10, were evident for Canterbury and Dover and lower levels for Dartford, Gravesham and Tunbridge Wells.
- National comparisons suggest that Sugar Smart uptake for Dartford, Gravesham and Tunbridge Wells was similar to peer authority medians. But the relatively lower levels of Sugar Smart uptake in Dartford and Gravesham were in the context of higher overweight and obesity prevalence within reception and year 6 in 2014/15.
 - Wards within the highest quintile of overweight and obesity prevalence but with the lowest quintile for uptake have been identified. Although limitations of ward level analysis should be recognised.
- There is no evidence to suggest any differences in uptake by area deprivation. However, only very limited analysis has been possible in the absence of a person-level dataset with individual measures of socio-economic position.

1.2 Call to Action

Across the Kent districts, lower levels of uptake were found within Dartford and Gravesham, alongside higher levels of excess weight in comparison to Kent. Within these districts ward level analysis has highlighted a number of wards with higher overweight and obesity prevalence but lower level of uptake from Sugar Smart registrations as a percentage of families with youngest child under 10. This may provide further direction on targeting campaigns.

| 2. Introduction & Objectives

The Change4Life Sugar Smart campaign aims to encourage and support families to reduce the amount of sugar they consume. It was launched in early January 2016, with support and content throughout January and February.

- The campaign aims to raise awareness of the high level of sugar consumed and its influence on health, by providing families with the knowledge and tools to understand the amount of sugar in foods and find healthier alternatives to reduce sugar intakes.
 - The Change4Life Sugar Smart app was launched, with media and advertising to promote the campaign. The Change4Life website also provides support for both families and teachers.
- They describe that the campaign targets everyone in England, but has particular focus on families with children aged 5-11 from socially disadvantaged backgrounds.¹
- It is also grounded within the theory that new year is often a time for positive change, as well as, evidence that visualising sugar will support behaviour change.¹

Analysis of uptake of the 2016 Change4Life Sugar Smart campaign in Kent is required to inform planned targeted preventive action.

In particular the analysis seeks to explore:

- How registrations and uptake by families with children aged 5-11 varies across Kent, with a particular focus on the most deprived decile.
- How reach in Kent compares with peer authorities.

¹ Public Health England (2016) Sugar Smart 2016 <https://campaignresources.phe.gov.uk/resources/campaigns>

2.1 What does the evidence say?

Marketing and advertising are key influences on food preference, purchasing behaviour and consumption.² There is evidence to support school based interventions to prevent childhood obesity.³ Furthermore, parental and family support has been identified as fundamental to weight management success.⁴

This underpins Public Health England's aim to reduce the marketing and advertising of high sugar food and drinks, alongside promoting awareness of sugar levels in the diet within schools and families to help lower sugar intakes.²

An evaluation of Change4Life, found that within its first year the campaign met or exceeded its targets for both reach and awareness.⁵ Further, a school based evaluation of parental attitudes and behaviours, after the launch of Change4Life in 2009, found that awareness increased; there was positive engagement in lower socioeconomic status families, but negative engagement in higher socioeconomic status families.⁶ An evaluation of the Change4Life Smart Swaps, found positive short term effects on food and drink purchasing behaviour.⁷ However, further research should explore for long term dietary change.

² Public Health England (2015) Sugar reduction: the evidence for action. <http://bit.ly/1OUFNW0>

³ Wang et al (2015) What childhood obesity prevention programmes work? A systematic review and meta-analysis. *Obesity Reviews*, 16(7) 547-565

⁴ Cardiff University (2012) Review 2: the barriers and facilitators to implementing lifestyle weight management programmes for children and young people. Support Unit for Research Evidence, Cardiff University

⁵ Department of Health (2010) Change4Life one year on. <http://bit.ly/1TxLiJ2>

⁶ Crocker H., et al. (2012) Cluster-randomised trial to evaluate the Change4Life mass median/ social marketing campaign in the UK. *BMC Public Health*, 12 (404) 1471-2458

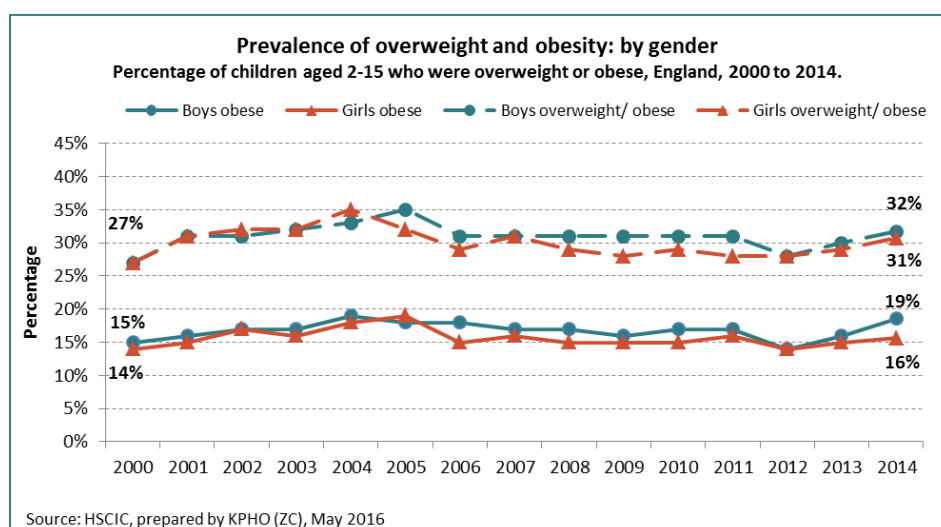
⁷ Wrieden, W.L. & Levy, L.B. (2016) Change4Life Smart Swaps: quasi-experimental evaluation of a natural experiment. *Public Health Nutrition*, 10, 1017.

3. Public Health Need

3.1 National Prevalence

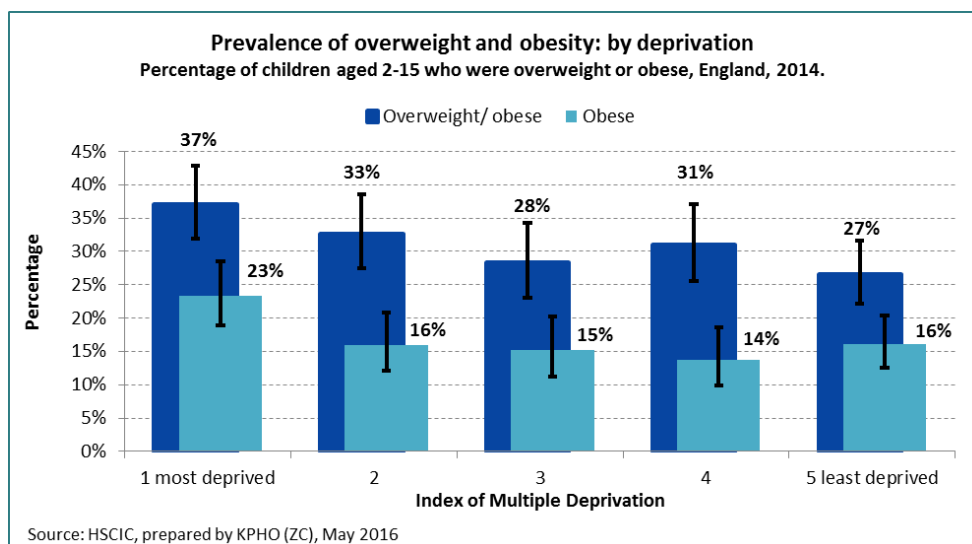
The Health Survey for England⁸ is an annual survey that explores the national prevalence of excess weight in childhood.

- There was an increasing trend in both childhood obesity and excess weight until 2004 and 2005. Since then the trend has flattened. Obesity rates were measured at 19% in boys and 16% in girls in 2014.



⁸ Health & Social Care Information Centre (2015) Health Survey for England, 2014.
<http://www.hscic.gov.uk/catalogue/PUB19295>

- The Health Survey for England report a statistically significant variation in excess weight prevalence, with higher levels of overweight and obesity within those in the most deprived quintiles in the latest years.⁹
- Furthermore, overweight and obesity was lower amongst those within the higher income quintiles.⁹



⁹ Health & Social Care Information Centre (2015) Health Survey for England, 2014.

<http://www.hscic.gov.uk/catalogue/PUB19295>

It should be noted here that overlapping confidence intervals do not necessarily indicate no significant difference.

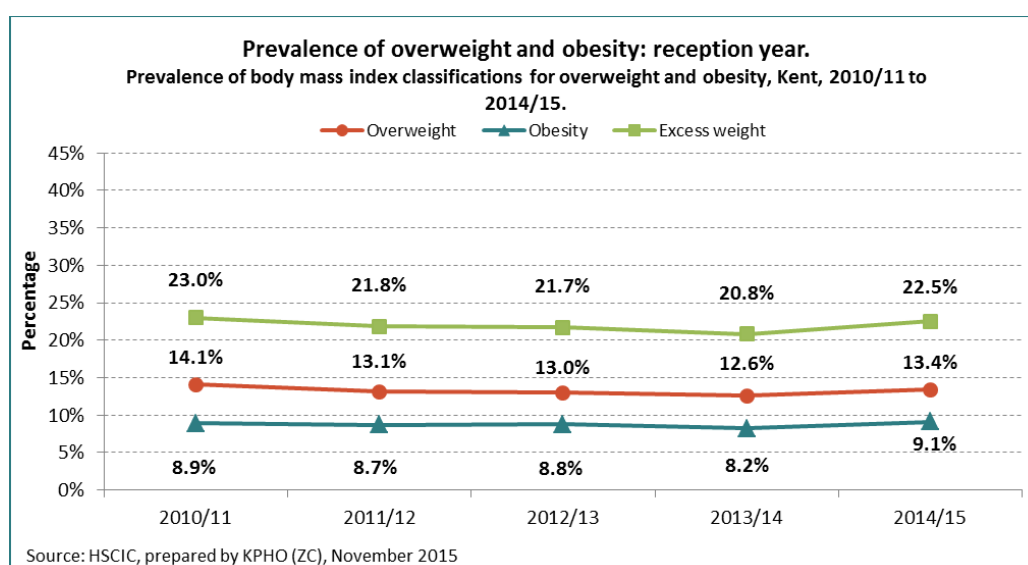
3.2 Local Prevalence

The National Child Measurement Programme¹⁰ assesses the overweight and obesity levels of children attending state schools in reception (ages 4 to 5 years) and year six (ages 10 to 11 years).

3.2.1 Reception Year

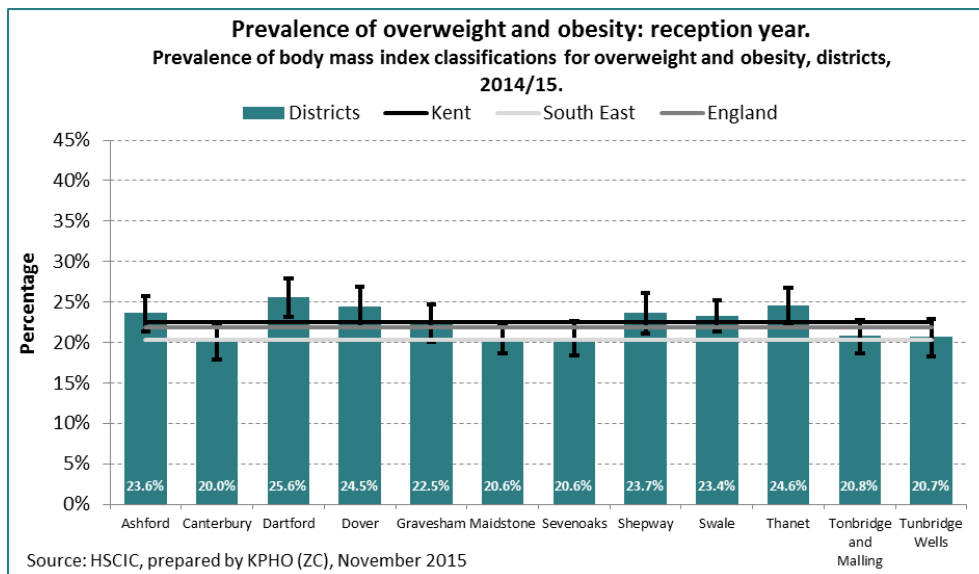
Reception year overweight and obesity in Kent can be compared to the South East and England between 2010/11 and 2014/15.

- In 2014/15, 13.4% and 9.1% of reception year pupils in Kent were overweight and obese respectively. Whilst obesity levels were similar to England (also 9.1% in 2014/15), overweight was slightly higher than the England average (of 12.8%).
- Similarly to national findings, the local prevalence of overweight, obesity and excess weight, within reception year pupils, was similar between 2010/11 and 2014/15, despite a small increase within the latest year.



¹⁰ Health & Social Care Information Centre (2015) National Child Measurement Programme - England, 2014-15. <http://www.hscic.gov.uk/catalogue/PUB19109>

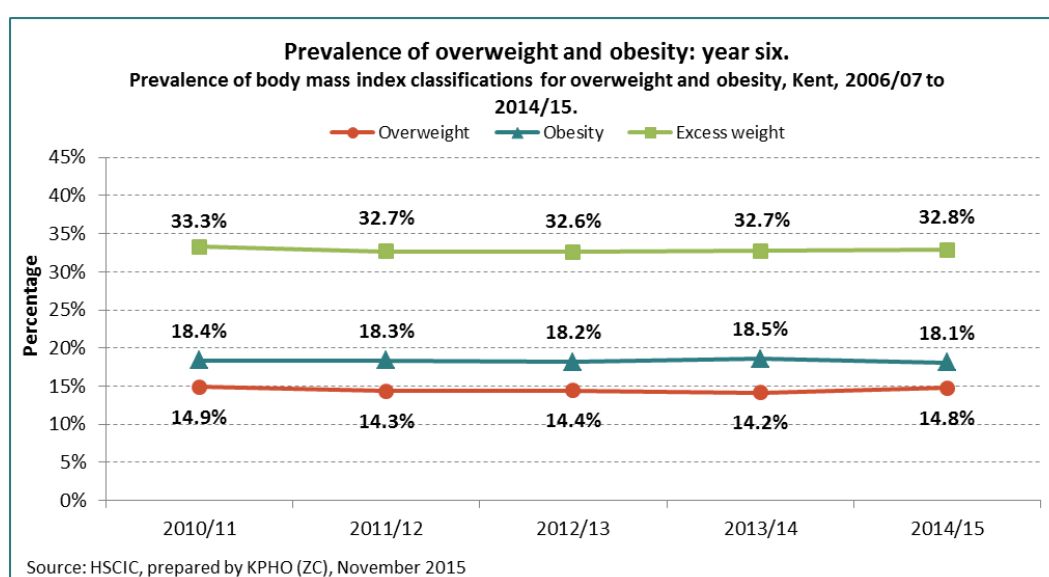
- Generally the district levels of overweight, obesity and excess weight were similar to Kent and England in 2014/15, with the following exceptions:
 - There was evidence to suggest **higher** levels of obesity and excess weight, but similar levels of overweight in Dartford in comparison to Kent and England.
 - There was evidence to suggest **lower** levels of obesity, but similar levels of overweight and excess weight in Sevenoaks in comparison to Kent and England.



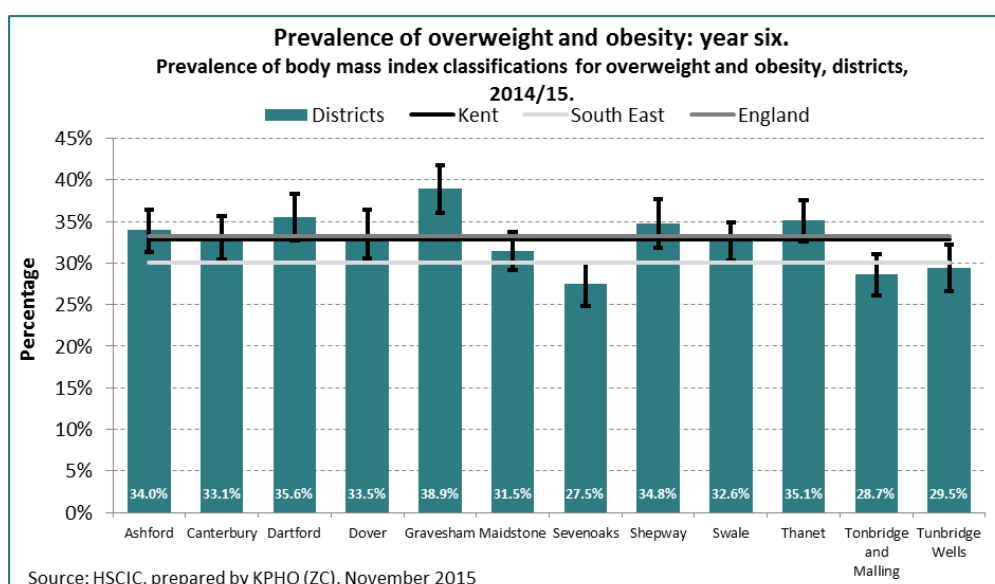
3.2.1 Year Six

Year six overweight and obesity in Kent can be compared to the South East and England between 2010/11 and 2014/15.

- In 2014/15, 14.8% and 18.1% of year six pupils were overweight and obese respectively. Obesity levels were slightly lower than the England average (of 19.1%), but overweight was slightly higher than the England average (of 14.2%).
- Similarly to national findings, the local prevalence of overweight, obesity and excess weight, within year six pupils, was similar between 2010/11 and 2014/15.



- Generally the district levels of overweight, obesity and excess weight were similar to Kent and England in 2014/15, with the following exceptions:
 - In Dover, obesity levels were **higher**, but overweight was similar to Kent and England.
 - In Gravesham and Thanet, obesity and excess weight levels were **higher**, but overweight was similar to Kent and England.
 - In Sevenoaks and Tonbridge & Malling, obesity and excess weight levels were **lower**, but overweight was similar to Kent and England.
 - In Tunbridge Wells, excess weight was **lower** in comparison to Kent and England.



| 4. Sugar Smart

Summary

In 2016, there were 1,788 registrations to Sugar Smart across Kent. This is in the context of a target population of 111,186 families with youngest child aged under 10. There was generally higher uptake from greater numbers of registrations within wards with highest numbers families with the youngest child aged under 10.

Across the Kent districts, higher levels of uptake were evident for Canterbury and Dover. Lower levels of uptake were found within Dartford, Gravesham and Tunbridge Wells. This is in the context of higher levels of excess weight for Dartford and Gravesham.

National comparisons suggest that Dartford & Gravesham peer authorities similarly had relatively low Sugar Smart uptake, despite higher levels of excess weight. Wards within the highest deciles of excess weight prevalence but with the lowest quintiles for uptake have been identified.

There is no evidence to suggest any differences in uptake by deprivation.

Overall, there were 1,788 registrations to Sugar Smart across Kent during the five week campaign since launch on January 4th 2016. We understand that campaign emails were sent to the existing Change4Life database. The email metrics suggest that within Kent:

- 84.3% of emails were opened; this was similar to the median of 84.6% (Inter Quartile Range 83.3%, 86.3%) across England.
- Of the emails opened, 22.6% of recipients clicked through to content; this was higher than the median of 21.6% (Inter Quartile Range 20.5%, 22.6%) across England.

Table 1: Sugar Smart Registrations

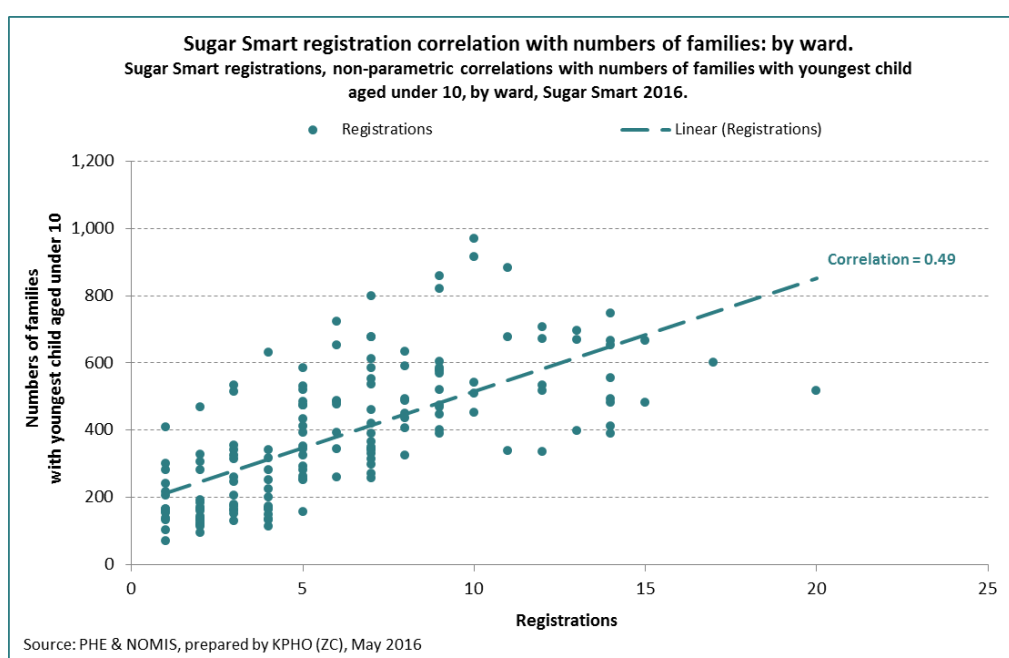
	Registrations
Ashford	159
Canterbury	186
Dartford	110
Dover	153
Gravesham	98
Maidstone	194
Sevenoaks	127
Shepway	139
Swale	188
Thanet	171
Tonbridge and Malling	144
Tunbridge Wells	119
Kent	1,788

Source: PHE prepared by KPHO (ZC) May 2016

Sign up to Sugar Smart 2016 has been analysed in the context of the numbers of families with youngest child aged under 10,¹¹ since this broadly represents the target audience for the Sugar Smart 2016 campaign.

The analysis below considers ward-level sign up to Sugar Smart.¹² Non-parametric correlation was explored, as data was not normally distributed and a meaningful measure for the strength of association was needed.¹³

As expected, there is a moderate relationship between registrations and numbers of families with youngest child aged under 10. This suggests that there is generally higher reach from greater numbers of registrations within wards with highest numbers of families with youngest child aged under 10.



¹¹ Using the Census 2011 indicator for the numbers of families with dependent children; this represents families with youngest child aged 0 to 9 in a household.

¹² It should be noted there that the numbers of registrations at ward level are small averaging 6 per ward.

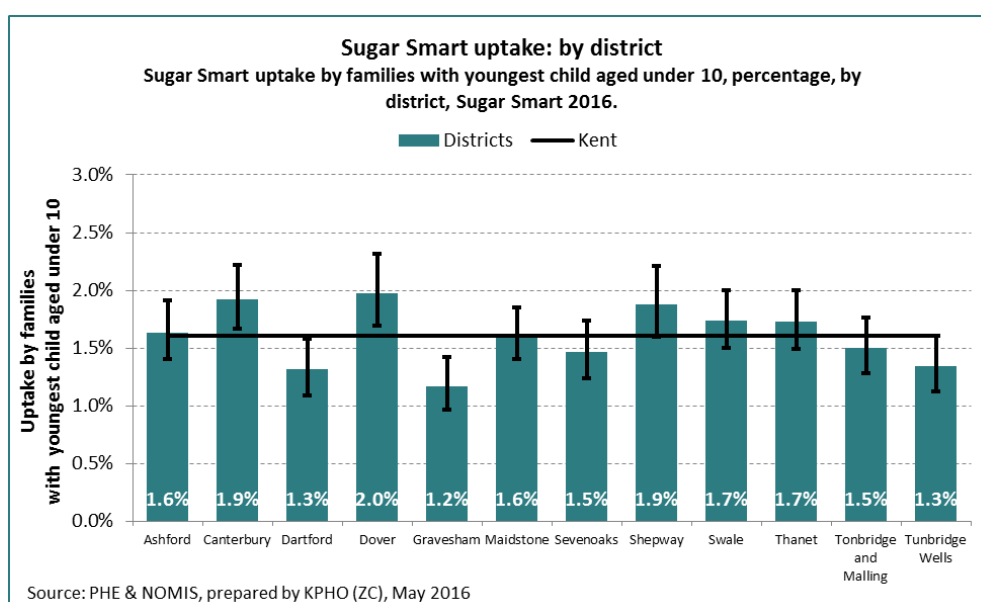
¹³ Kendall's Tau was used for non-parametric correlations

4.7 Uptake by District

District level Sugar Smart uptake has also been analysed in relation to the numbers of families with youngest child aged under 10 at a district level.

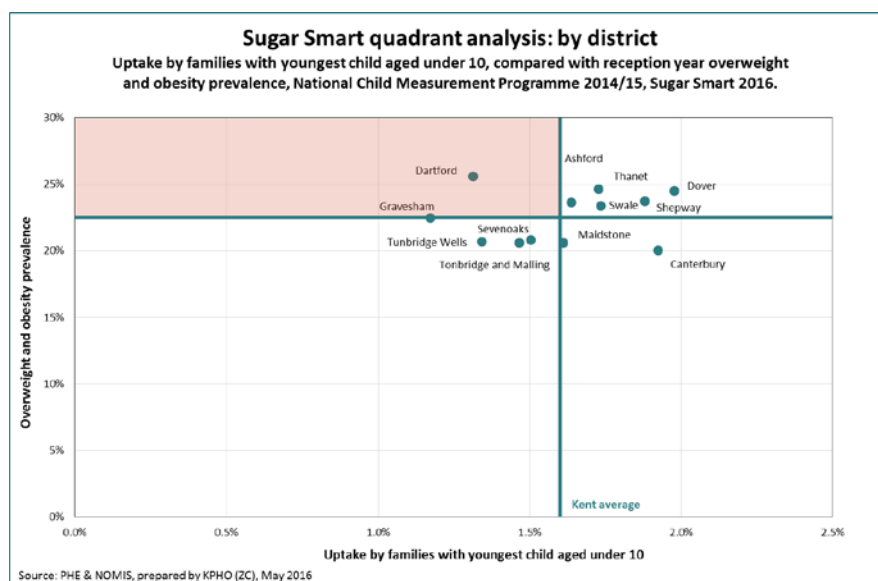
Overall, we can estimate that 1.6% of the Kent families, with at least one child aged under 10, may have registered for Sugar Smart, 2016. Although, we cannot say with certainty that uptake was exclusively by families. But uptake varied across the Kent districts:

- Uptake was **lower** in Dartford, Gravesham and Tunbridge Wells.
- Uptake was **higher** in Canterbury and Dover.

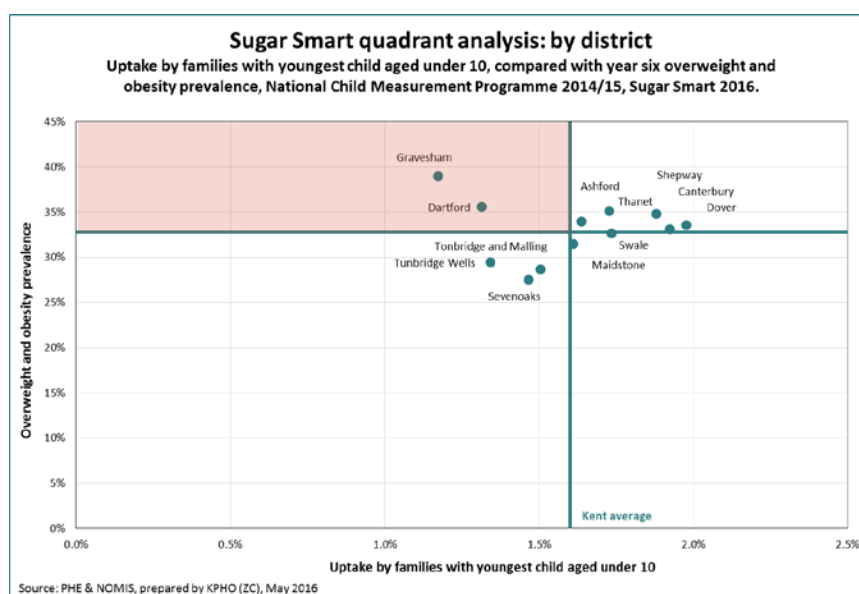


The charts below highlight districts, within the left upper quadrant, with higher obesity prevalence but lower Sugar Smart uptake. The horizontal and vertical lines represent the Kent prevalence of excess weight at 22.5% and 32.8% within reception and year six, as measured by the National Child Measurement Programme in 2014.

Uptake was **lower** in Dartford and Gravesham, alongside higher overweight and obesity prevalence in reception year in 2014/15.



Uptake was also **lower** in Dartford and Gravesham, alongside higher obesity prevalence in year six pupils in 2014/15.



4.8 Peer Authority Comparisons

The Office for National Statistics group local authorities into 29 clusters based on demographic and socio-economic variables¹⁴. The subgroup clusters for each of the local authorities within Kent were identified.

For this comparator analysis, Sugar Smart registrations has been analysed as a percentage of numbers of families with youngest child aged under 10¹⁵ to explore uptake for the Sugar Smart 2016 campaign in Kent in comparison with peer authorities.

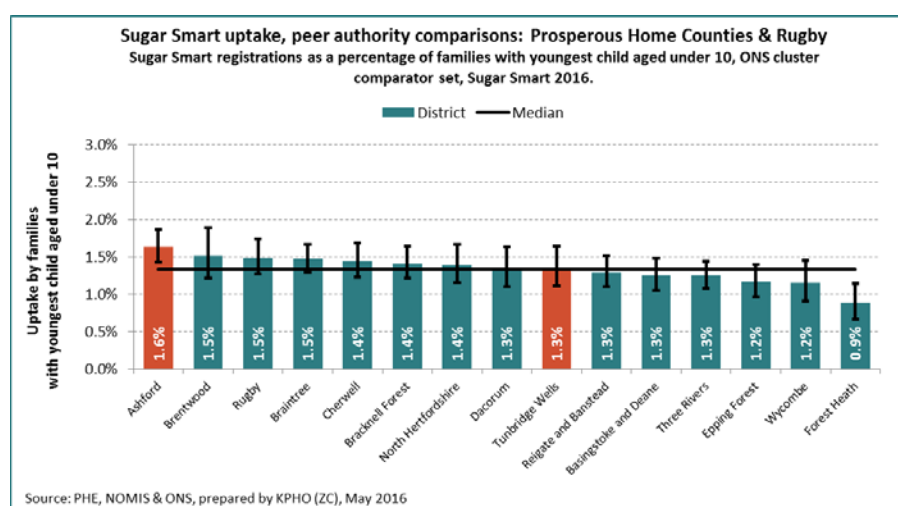
Table 1: Office for National Statistics, subgroup clusters.

Local Authority	Subgroup Cluster
Ashford	Prosperous Home Counties and Rugby
Canterbury	Heritage Centres
Dartford	Expanding Areas and Established Cities
Dover	Resorts and Ports
Gravesham	Expanding Areas and Established Cities
Maidstone	Prosperous Country
Sevenoaks	Prosperous Country
Shepway	Resorts and Ports
Swale	Mining Heritage and Semi-Rural
Thanet	Resorts and Ports
Tonbridge and Malling	Prosperous Country
Tunbridge Wells	Prosperous Home Counties and Rugby

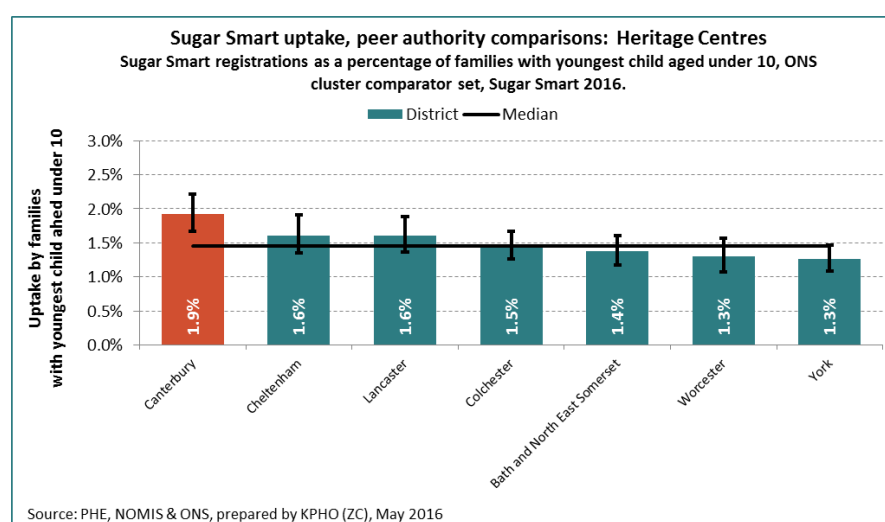
¹⁴ Office for National Statistics (2011) About the area classifications.
<http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/guide-method/geography/products/area-classifications/ns-area-classifications/ns-2011-area-classifications/about-the-area-classifications/index.html>

¹⁵ Using the Census 2011 indicator - numbers of families with dependent families. This represents families with a child aged 0 to 15 in a household.

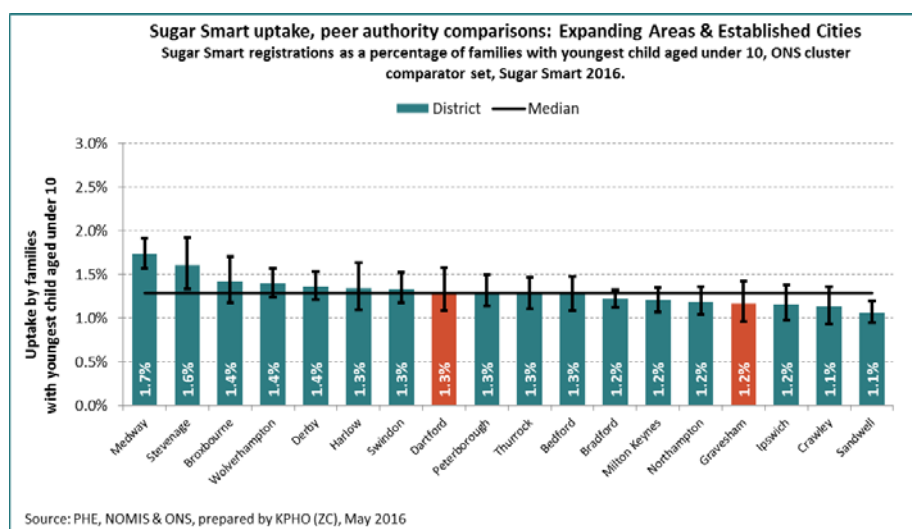
Both Ashford and Tunbridge Wells fall into the 'Prosperous Home Counties and Rugby' subgroup cluster. In comparison with other authorities in this subgroup, Sugar Smart uptake was above the median value for Ashford, but similar to the median value for Tunbridge Wells. This suggests that despite low uptake in Tunbridge Wells, similar districts have also seen lower uptake. Ashford differs with uptake above the median value, but the prevalence of excess weight was higher than Tunbridge Wells at 23.6% and 34.0% within reception and year six, from the National Child Measurement Programme in 2014.



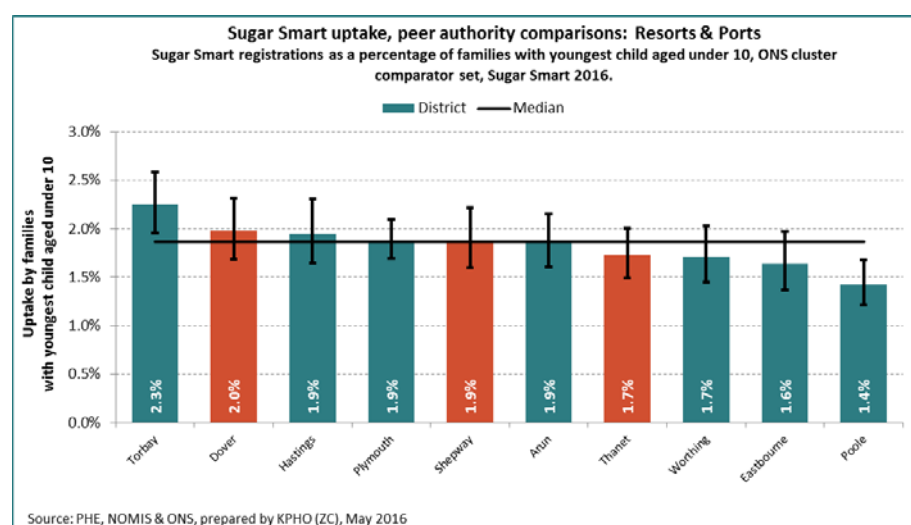
Canterbury falls into the 'Heritage Centres' subgroup cluster. In comparison with other authorities in this subgroup, Sugar Smart uptake was above the median value.



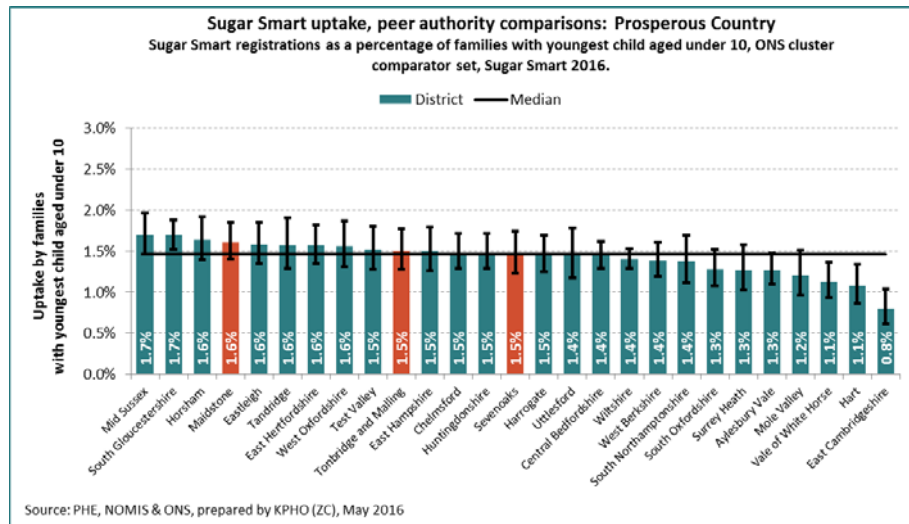
Both Dartford and Gravesham fall into the 'Expanding Areas & Established Cities' subgroup cluster. We previously identified these districts to have low uptake in comparison to Kent. In comparison with other authorities in this subgroup, Sugar Smart uptake for Dartford and Gravesham was similar to the median value. This suggests that similar districts have also seen lower uptake. Medway differs with uptake above the median value, but prevalence of excess weight is not as high as the levels observed in Dartford and Gravesham; at 21.6% and 34.0% within reception and year six, from the National Child Measurement Programme in 2014.



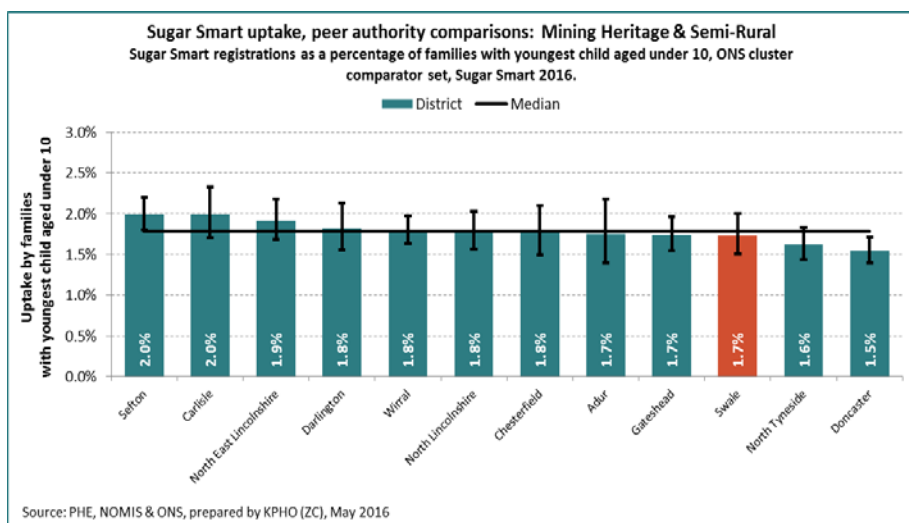
Thanet, Shepway and Dover fall into the 'Resorts & Ports' subgroup cluster. In comparison with other authorities in this subgroup, Sugar Smart uptake was similar to the median value for Shepway, Dover and Thanet.



Maidstone, Tonbridge & Malling and Sevenoaks fall into the 'Prosperous Country' subgroup cluster. In comparison with other authorities in this subgroup, Sugar Smart uptake was similar to the median value for Tonbridge and Malling, Sevenoaks and Maidstone.



Swale falls into the 'Mining Heritage & Semi Rural' subgroup cluster. In comparison with other authorities in this subgroup, Sugar Smart uptake was similar to the median value for Swale.

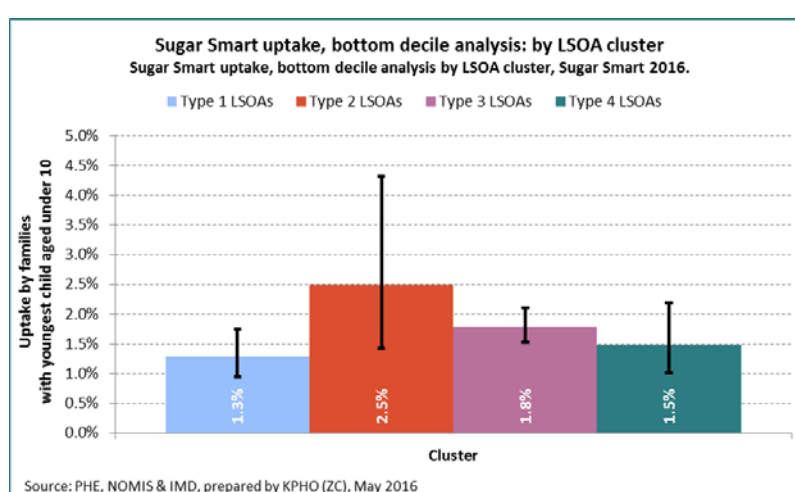
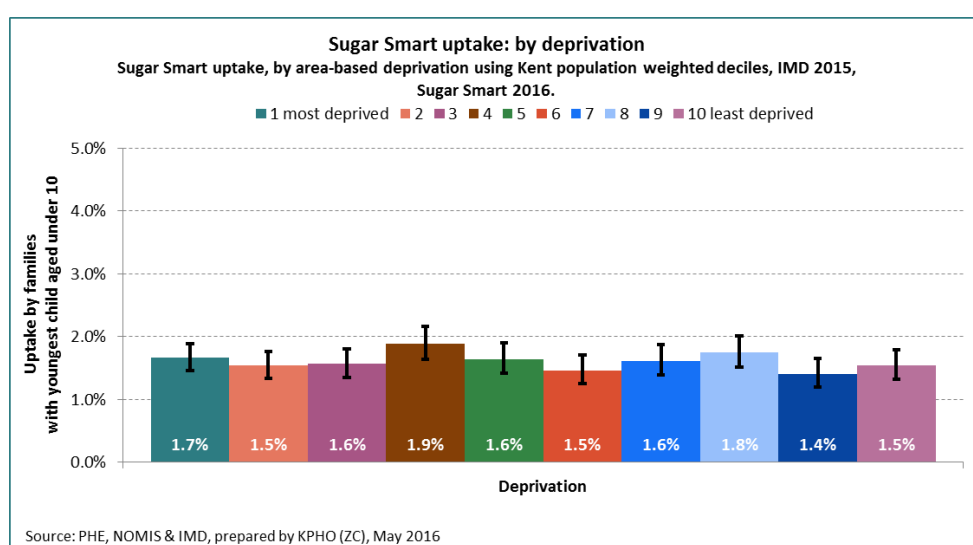


4.6 Uptake by Deprivation

Analysis explored Sugar Smart by area-based deprivation using Kent population weighted deciles, as well as, the bottom decile by lower super output area (LSOA) cluster. The 'Mind the Gap 2016' report¹⁶ grouped Kent's most deprived LSOAs into four deprivation types;

- Type 1 LSOAs – young people lacking opportunities
- Type 2 LSOAs – deprived rural households
- Type 3 LSOAs – families in social housing
- Type 4 LSOAs – young people in poor quality accommodation

Sugar Smart uptake did not differ across the Index of Multiple Deprivation deciles or within the bottom decile by LSOA cluster.

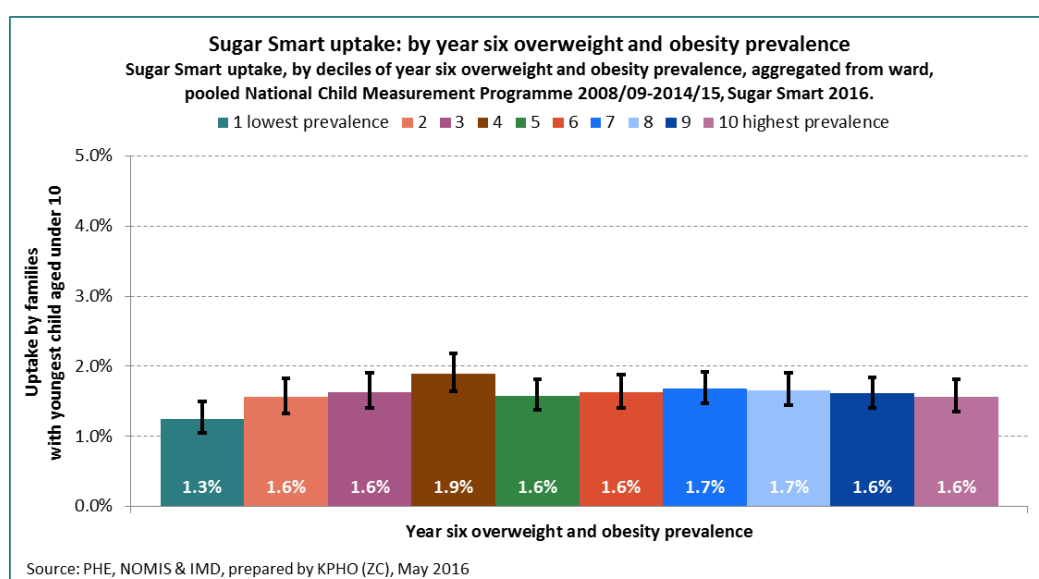
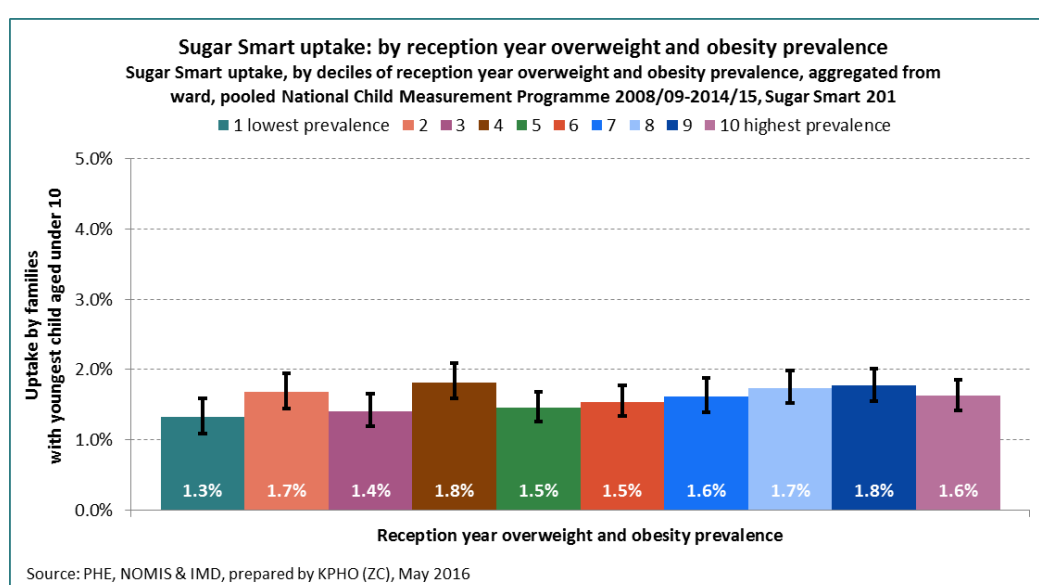


¹⁶ Jayatunga W., et al. (2016) Mind the gap 2016: health inequalities strategy for Kent.

4.4 Uptake by Overweight and Obesity Prevalence

Whilst the dataset does not allow direct analysis of Sugar Smart registrations by excess weight prevalence, it is possible to explore whether there are any differences in uptake by excess weight prevalence. This used surveillance measurements of overweight and obesity from the National Child Measurement Programme during 2008/09 to 2014/15. If any differences are evident this may imply differences in uptake by deciles of excess weight.

- No relationship was found between Sugar Smart uptake and deciles of reception year or year six overweight and obesity prevalence.

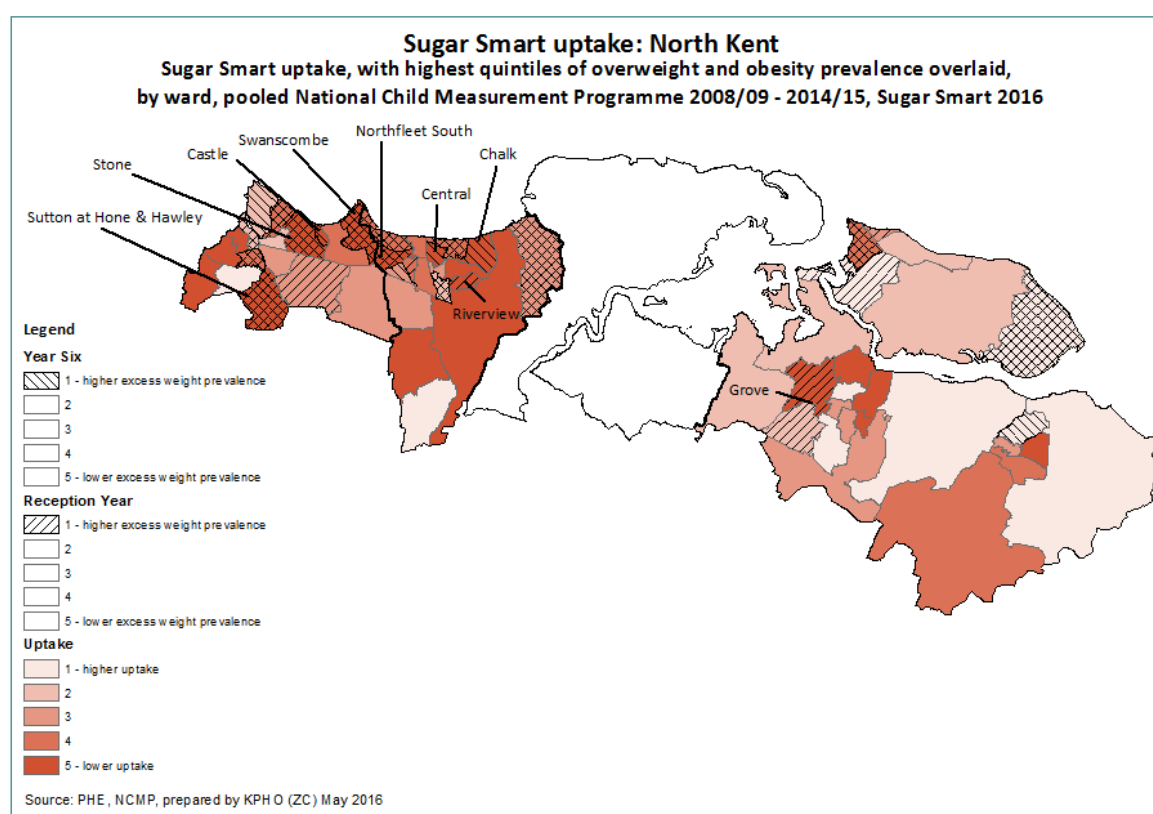


4.2 Uptake by Ward

We couldn't identify a relationship between Sugar Smart uptake and decile of excess weight prevalence. But there are some individual wards with high levels of need from higher excess weight prevalence but relatively low Sugar Smart uptake.

Wards within the top quintiles of overweight and obesity prevalence but with the bottom quintile with lowest uptake for Sugar Smart have been identified. It should be noted there that the numbers of registrations at ward level are small; but we have pooled several years of data from the National Child Measurement Programme to increase stability.

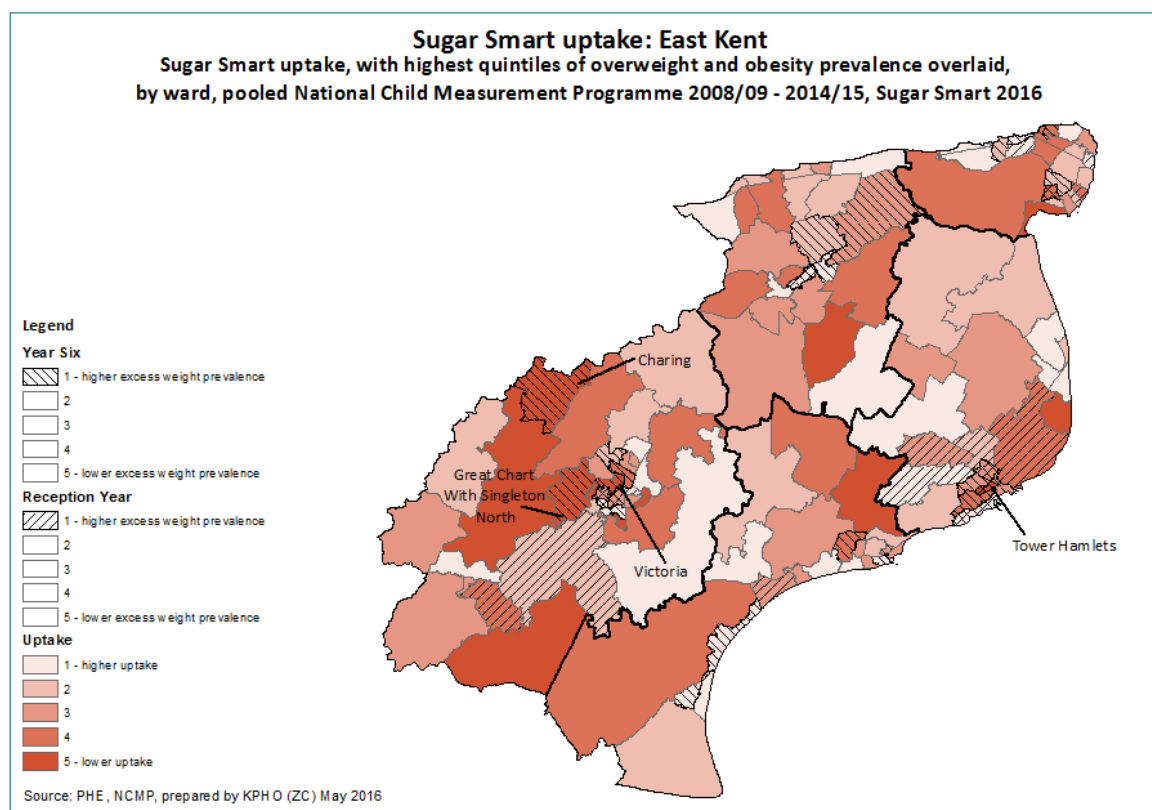
The map below shows the findings for North Kent.



This analysis highlights the following wards as having high overweight and obesity prevalence but low levels of uptake of Sugar Smart;

- Within Gravesend; Central, Chalk, Riverview and Northfleet South.
- Within Dartford; Castle, Sutton at Hone & Hawley, Stone and Swanscombe.
- Within Swale; Grove.

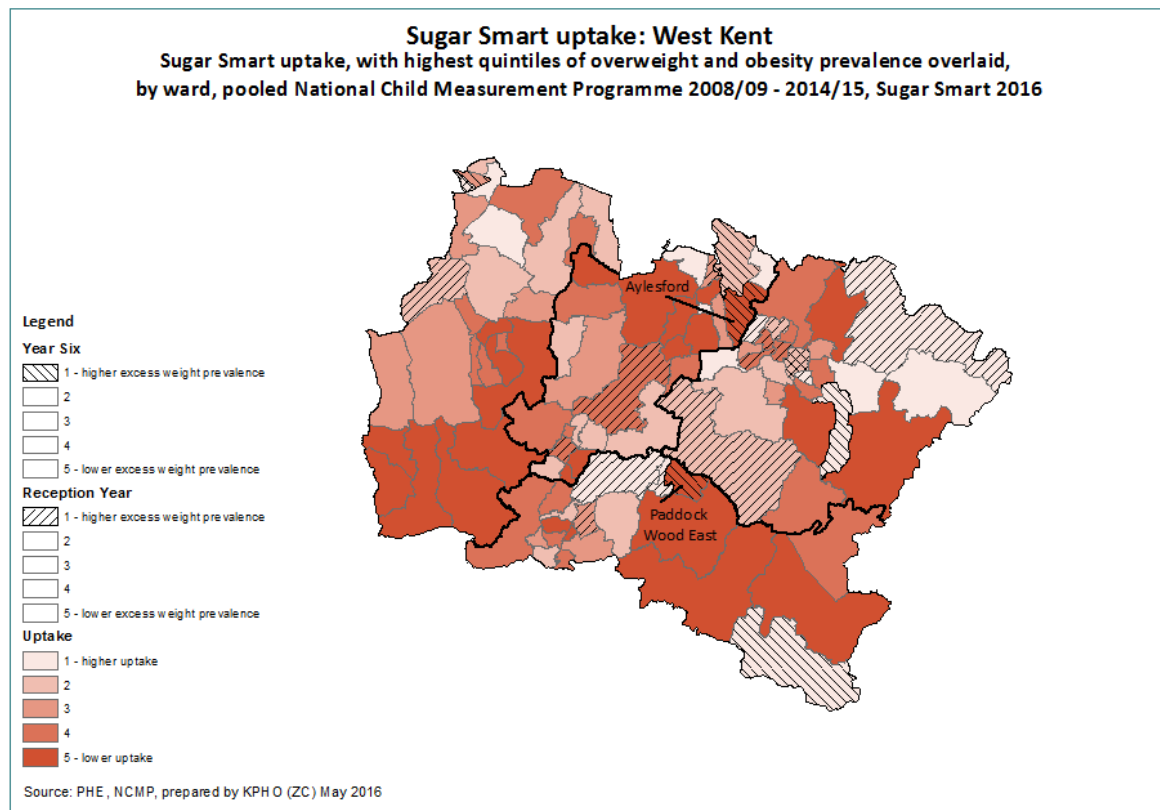
The map below shows the findings for East Kent.



This analysis highlights the following wards as having high overweight and obesity prevalence but low levels of uptake of Sugar Smart;

- Within Ashford; Charing, Great Chart with Singleton North and Victoria.
- Within Dover; Tower Hamlets.

The map below shows the findings for West Kent.



This analysis highlights the following wards as having high overweight and obesity prevalence but low levels of uptake of Sugar Smart;

- Within Tonbridge & Malling; Aylesford.
- Within Tunbridge Wells; Paddock Wood East.

| 4. Conclusions

Generally speaking, there was higher uptake from greater numbers of registrations within wards with higher numbers of families with the youngest child aged under 10.

But across the Kent districts, lower levels of uptake were found within Dartford, Gravesham and Tunbridge Wells. This is in the context of higher levels of excess weight in Dartford and Gravesham. However, national comparisons suggest that these districts generally had similar levels of Sugar Smart uptake in comparison to peer authorities.

It should be noted that higher levels of excess weight can be seen within Dartford and Gravesham in comparison to Kent. Also, there are some individual wards that can be identified with high overweight and obesity prevalence but relatively low levels of uptake. Identification of these wards may provide further direction on targeting for future campaigns.

Analysis has shown that the campaign reached similar proportions of families regardless of deprivation levels, including those living in LSOAs in the most deprived decile in Kent.