



Public Health  
England

Protecting and improving the nation's health

# **Sugar reduction: Report on progress between 2015 and 2018**

September 2019

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## Executive summary

Public Health England (PHE) oversee the voluntary sugar reduction programme and wider reformulation programme on behalf of government. The sugar reduction programme is a key commitment in all chapters of 'Childhood obesity: A plan for action'<sup>i,ii,iii</sup>. This programme challenges all sectors of the food industry to reduce sugar by 20%<sup>1</sup> by 2020 in the categories of food that contribute most to the sugar intakes of children aged up to 18 years.

In March 2017 PHE published guidelines<sup>iv</sup> for the total sugar content per 100g and for the calorie content of products likely to be consumed in a single occasion for the food categories included in the sugar reduction programme. These were designed to help industry achieve the 20% sugar reduction ambition. The reductions in sugar should also be accompanied by reductions in calories where possible. An assessment of progress by industry over the first year of the sugar reduction programme (up to 10 September 2017) was published in May 2018<sup>v</sup>.

This new report includes an assessment of progress by industry, over the first 2 years of the sugar reduction programme, towards the 20% reduction ambition. This is based on analysis of data for the year ending 9 September 2018, compared with the baseline year of 2015, for manufacturer branded and retailer own brand products purchased for consumption in the home. For food purchased from the out of home sector (for example, from restaurants, pubs and cafes)<sup>2</sup>, a comparison over time is included for the first time and is made for the year ending August 2018 against a baseline year of 2017 as earlier detailed data were not available for this sector.

In April 2018 HM Revenue and Customs (HMRC) introduced the Soft Drinks Industry Levy (SDIL)<sup>vi</sup> which is aimed at the producers and importers of added sugar soft drinks, and is designed to encourage producers to reformulate their overall product ranges by reducing added sugar content, helping customers choose low/no added sugar products and reducing portion size. It was amongst the key commitments in the government's 'Childhood obesity: a plan for action'.

PHE was asked to monitor progress of the SDIL by HMRC, and this report also includes an assessment of changes in sugar content and sales of drinks covered by SDIL

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<sup>1</sup> This is measured by sales weighted average total sugar content in g/100g

<sup>2</sup> The term 'out of home' covers businesses such as quick service restaurants, casual dining restaurants, contract caterers (foodservice), cafés and coffee shops, sandwich and bakery led shops, pubs, vending, retail food on the go, takeaway and delivery services. Very few purchases of takeaways and delivery services are included in this report as the data source used for out of home only captures purchases which are not eaten at home.

between 2015 and 2018. It also includes an initial analysis of the trend in the sales of drinks covered by SDIL by socio-economic group.

## Headline conclusions

The specific ambition set for the sugar reformulation preprogramme was to reduce the average sugar content of products overall, and for individual food categories, by 20% by 2020. Between 2015 and 2018 there has been an overall 2.9% reduction in average sugar content (sales weighted average in grams per 100 grams) among retail and manufacturer branded products (in-home sector).

More progress has been achieved in specific food categories, particularly for breakfast cereals (8.5% reduction), and for yogurts and fromage frais (10.3% reduction),

The average sugar content (simple average per 100 grams) of products purchased from the out of home sector has also reduced (by 4.9%) since the baseline of 2017, however, this is based on more limited data and less comprehensive nutritional information than that for retailers and manufacturers.

The picture is different for the average calorie content of products likely to be eaten by an individual on a single occasion<sup>3</sup>. For the in-home sector overall there has been no change in the sales weighted average since 2015, but the simple average has increased for the out of home sector by 1.8% since 2017. Average calorie content of single serve products in the out of home sector remains higher than products in the equivalent categories in the in-home sector.

There is a great deal of variation in the change in the sugar and calorie content of products at business and brand level, with some businesses moving towards or doing more than the guidelines set, while others have not changed or have seen an increase in sugar and/or calorie content.

The average sugar content of drinks subject to the Soft Drinks Industry Levy (SDIL) decreased by 28.8% between 2015 and 2018 (measured in sales weighted average grams per 100ml). This percentage decrease is much greater than that seen for the food categories included in the sugar reduction programme.

Overall the total tonnes of sugar sold in foods included in the reformulation programme from the in-home sector has increased by 2.6% between 2015 and 2018 (excluding

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<sup>3</sup> Portion size has been estimated through analysis and consumption information by PHE and is not always the same as information provided by retailers or manufactures for product portion sizes.

cakes and morning goods), whereas the sugar sold in soft drinks subject to SDIL has decreased by 21.6%. Equivalent figures for the out of home sector are not available.

Analysis by socioeconomic group of head of household shows that the total sugar purchased per household from drinks subject to SDIL has decreased in all groups, but this reduction is smallest in the lowest socioeconomic group. However, this analysis has not accounted for other factors that could be causing some of these differences between groups, including price changes and other household characteristics (such as size and family composition) and further analysis is required to fully understand the changes seen.

Although consumption patterns have not been assessed in this report (only purchases), if the SDIL findings translate into reduced sugar consumption from drinks and are sustained over time, and if other dietary components remain unchanged, then all socioeconomic groups are likely to accrue the health benefits linked to lower levels of sugar in the diet<sup>vii</sup>.

## Headline results

### Sugar content of products

#### Retailer own brand and manufacturer branded products (in-home sector)

The main findings were (see Table ES1a):

- overall there was a 2.9% reduction in total sugar per 100g in products sold between 2015 and 2018
- there were larger reductions for some specific product categories (yogurts and fromage frais down 10.3% and breakfast cereals down 8.5% compared with 2015)
- there were small increases for 2 categories; puddings; and, sweet confectionery

#### Out of home sector products

The main findings were (see Table ES1a):

- the simple average of total sugar per 100g reduced by 4.9% between 2017 and 2018<sup>4</sup>
- the largest decreases were 23.5% for yogurts and fromage frais, 17.1% for breakfast cereals, 15.0% for puddings, 12.9% for ice creams, lollies and sorbets,

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<sup>4</sup> Progress for the out of home sector is compared with a baseline of 2017 as robust data for 2015 is not available. It is also based on simple averages rather than sales weighted averages as the available data does not match purchases with nutrition information at product level.

9.1% for morning goods and 6.9% for cakes (note the analysis for yogurts and fromage frais is only based on 54 products in 2017 and 38 products in 2018, and therefore should be treated with caution)

- there was an increase for chocolate confectionery of 3.6%
- for most categories, the simple average sugar content per 100g in products consumed out of home is roughly the same as the retailer own brand and manufacturer branded products purchased for consumption in home

**Table ES1a – Summary of change in sugar content by category**

Product Category	Sugar per 100g	
	In home (% change in SWA <sup>+</sup> )	Out of home (% change in SA <sup>\$</sup> )
<b>Overall</b>	<b>-2.9</b>	<b>-4.9</b>
Biscuits	-0.6	-0.4
Breakfast Cereals	-8.5	-17.1
Chocolate confectionery	-0.3	3.6
Ice cream, lollies and sorbets	-0.3	-12.9
Puddings	0.5	-15.0
Sweet spreads and sauces	-4.6	n/a
Sweet confectionery	0.6	n/a **
Yogurts and fromage frais	-10.3	-23.5
Cakes	-4.8 *	-6.9
Morning goods	-3.6 *	-9.1

Notes

\* - The baseline for cakes and morning goods is 2017 rather than 2015

\*\* - Data for sweet confectionery in the out of home sector has been excluded due to incomparability of results

+ - SWA (sales weighted average) is the mean weighted by total sales. This gives more influence to products with higher sales

\$ - SA (simple average) is the simple arithmetic mean. Products are given equal influence. The baseline is 2017

## Calorie content of products likely to be consumed on a single occasion

### Retailer own brand and manufacturer branded products (in home sector)

The main findings were (see Table ES1b):

- there has been no overall change, since 2015, in calories in products likely to be consumed on a single occasion
- there have been some changes at category level and the largest decreases were 7.1% for yogurts and fromage frais, 5.1% for sweet confectionery and 4.0% for chocolate confectionery
- the largest increases were 4.3% for puddings and 3.8% for ice cream, lollies and sorbets

### Out of home sector products

The main findings were (see Table ES1b):

- calories per single serve portion increased by 1.8% since 2017
- chocolate confectionery (up 21.9%), yogurts and fromage frais (up 17.5%), and breakfast cereals (up 13.6%) had the largest increases in calories per portion

- cakes (down 6.7%) had the largest decrease followed by puddings (down 3.6%)
- calories in products likely to be consumed on a single occasion out of home are higher than retailer own brand and manufacturer branded products purchased for consumption in home across all categories

**Table ES1b – Summary of change in calories per portion by category**

Product Category	Calories per portion	
	In home (% change in SWA <sup>†</sup> )	Out of home (% change in SA <sup>§</sup> )
<b>Overall</b>	<b>-0.4</b>	<b>1.8</b>
Biscuits	-0.3	-1.4
Breakfast Cereals	n/a **	13.6
Chocolate confectionery	-4.0	21.9
Ice cream, lollies and sorbets	3.8	2.4
Puddings	4.3	-3.6
Sweet spreads and sauces	n/a **	n/a
Sweet confectionery	-5.1	n/a ***
Yogurts and fromage frais	-7.1	17.5
Cakes	3.5 *	-6.7
Morning goods	-0.7 *	-1.5

Notes

\* - The baseline for cakes and morning goods is 2017 rather than 2015

\*\* - Products not generally sold in single serve portions

\*\*\* - Data for sweet confectionery in the out of home sector has been excluded due to incomparability of results

+ - SWA (sales weighted average) is the mean weighted by total sales. This gives more influence to products with higher sales

§ - SA (simple average) is the simple arithmetic mean. Products are given equal influence. The baseline is 2017

## Soft Drinks Industry Levy (SDIL)

The main findings were:

- a 28.8% reduction in total sugar content per 100ml between 2015 and 2018 for the drinks subject to be included in the SDIL among retailer own brand and manufacturer branded products
- an increase in sales of drinks subject to the levy of 10.2%, but a reduction in the total sugar content in the drinks sold of 21.6%
- a shift in the volume of sales towards low sugar products (below 5g per 100ml) with no levy attached
- a decrease in total sugar purchased from drinks subject to the SDIL per household among all socio-economic groups

- the reduction in sugar purchased per household from drinks subject to the SDIL was smallest in the lowest socio-economic group (9% compared with 24% overall),
- the calorie content of drinks subject to the levy likely to be consumed on a single occasion fell by 20.5%
- for drinks consumed out of home, there was a reduction of 27.2% in the simple average total sugar per 100ml, and a reduction of 22.2% in calories for drinks likely to be consumed on a single occasion

This report also includes analysis of the total sugar sold through each category of products, changes in top selling brands and products and changes in saturated fat and calories per 100g.

## Limitations

There are a number of limitations to the data and analysis presented in this report. It is not possible to test the statistical significance of the changes over time which means that some of the changes or differences between food categories could have occurred by chance.

For the out of home sector, it is not possible to produce the sales weighted average sugar content of products in g/100g. This is due to problems linking sales and nutrition data. Therefore simple averages have been used, but these have the disadvantage of not taking into account the volume of sales of the product which means that low selling products are given the same weight as high selling products. Also, there may be bias as nutrition information is not available for some outlets.

The baseline used for the in-home sector is 2015. However, only a small amount of data was collected for cakes and morning goods in 2015 so progress for these categories is being compared with a baseline year of 2017. Analysis of the out of home sector also uses a 2017 baseline as individual business level data was unavailable before this.

The SDIL analysis by socioeconomic group has not accounted for other factors that could be causing some of the differences seen, including price changes and other household characteristics. For example, only a small proportion (11%) of group E are families, and 57% are single person households.

## Case Studies

Case studies provided by businesses are included to highlight specific reformulation activity they have carried out which may not have been captured in the datasets used to assess progress, but which could be used as evidence to demonstrate activity towards the 20% sugar reduction ambitions.

## Next steps

PHE is committed to transparent monitoring of the sugar reduction programme. The next progress report, due in the first half of 2020 will provide a further assessment of progress by all sectors of industry towards achieving the 20% reduction ambition.

Next steps for the other parts of the wider reformulation programme are set out below and PHE will continue to discuss and engage extensively with stakeholders on all these areas:

- final work towards setting guidelines for the foods included in the calorie reduction programme
- work towards revising the salt reduction targets following publication of the government's prevention green paper which included an ambition to further reduce population salt intakes by 1g per day, and PHE will publish the revised targets in 2020 for industry to achieve by mid-2023
- following the publication of PHE's review on the evidence for action on commercial baby foods and drinks<sup>viii</sup>, the government's prevention green paper committed to challenge businesses to improve the nutritional content of these products, and PHE will publish guidelines for commercial baby foods and drinks in early 2020, and monitor industry's progress
- work has begun on the next phase of engagement with specific parts of the out of home sector and will be focused towards travel and leisure businesses.

## Introduction

Public Health England (PHE) oversees the government's sugar reduction and wider reformulation programme, as set out in all chapters of the Childhood Obesity Plan<sup>i, ii, iii</sup>.

The ambition of the sugar reduction programme is that all sectors of the food industry – retailers, manufacturers, and the eating out of home sector (for example, restaurants, pubs and cafes)<sup>5</sup> – reduce the amount of sugar in the foods that contribute most to the intakes of children by 20% by 2020, with a 5% reduction in the first year (by August 2017). This is against a baseline of 2015 (year ending 31 January 2016) for retailers and manufacturers, and against a baseline of 2017 (year ending 10 September) for the out of home sector. A 2017 baseline is used for the out of home sector as individual business level data was unavailable before this. The reductions in sugar should also be accompanied by reductions in calories where possible, with no increases in saturated fat and the achievement of current salt targets<sup>ix</sup>.

The categories included in the programme are biscuits; breakfast cereals; cakes; chocolate confectionery; ice cream, lollies and sorbets; morning goods (such as pastries and buns); puddings; sweet confectionery; sweet spreads and sauces; and yogurts and fromage frais. The programme covers children up to the age of 18 years. As children eat a wide range of foods, not just those that are manufactured for or marketed to children, all foods in each category are included.

Businesses are likely to be adopting 1 of 3 mechanisms for taking action; reducing the amount of sugar per 100g (reformulation); reducing portion size; or, shifting consumers' purchasing patterns towards lower/no added sugar products.

In March 2017 PHE published a technical report<sup>x</sup> outlining guidelines for total sugar content per 100g and calories per single serve portion, for the categories included in the programme, to help industry in achieving the programme's overall ambition. This technical report also included the baseline analysis for each category. Both the sugar and calorie guidelines were set as sales weighted averages (SWA) which are used to assess progress against the ambition for sugar reduction. A maximum calorie per single serve portion guideline was also set for the majority of categories.

A SWA is calculated by weighting the sugar or calorie content of individual and single serve products by their volume sales. This means that a high selling product with high

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<sup>5</sup> The term 'out of home' covers businesses such as quick service restaurants, casual dining restaurants, contract caterers (foodservice), cafés and coffee shops, sandwich and bakery led shops, pubs, vending, retail food on the go, takeaway and delivery services. Very few purchases of takeaways and delivery services are included in this report as the data source used for out of home only captures purchases which are not eaten at home.

sugar levels drives the SWA sugar content upwards, whereas a high selling product with low sugar content drives it downwards. Similarly, a high selling product with a large portion size drives the SWA calorie content upwards, whereas a high selling product with a small portion size drives it downwards.

In May 2018 PHE published a report assessing industry progress against the 5% sugar reduction ambition to be made in the first year of the sugar reduction programme<sup>xi</sup>. This previous report showed that, for retailer own brand and manufacturer branded products, there had been a reduction in total sugar per 100g in 5 out of the 8 categories where progress had been measured and an overall 2% reduction.

The report also showed an overall 2% reduction, and reductions in 4 out of 6 categories where progress had been measured, in calories in products likely to be consumed on a single occasion. It also reported in relation to the out of home sector that, when compared with retailers and manufacturers, sugar content was broadly similar but calories in single serve portions were nearly double.

This new report, details progress made by all sectors of industry in the second year of the programme and builds on that previous analysis. It includes, for the first time, an assessment of sugar reduction progress made for cakes and morning goods between 2017 and 2018 as well as an assessment on progress for the out of home sector. The 2015 baseline figures published previously have been revised to reflect improvements in methodology. Further details can be found in the methodology chapter and Appendix 2. This report also includes an assessment of changes in sugar content and sales of drinks covered by the Soft Drinks Industry Levy (SDIL) between 2015 and 2018, including an analysis of the trend in the sales of drinks covered by the SDIL by socio-economic group.

# Methodology

## Introduction

This section briefly sets out descriptions of the underlying data sources and analytical methods used to produce this report. A more detailed description of the methodology, including limitations to the data and analysis, can be found in Appendix 2.

The following product categories are covered by the sugar reduction programme (and a fuller description of each category is given in Appendix 2):

- biscuits
- breakfast cereals
- cakes
- chocolate confectionery
- ice cream, lollies and sorbets
- morning goods
- puddings
- sweet confectionery
- sweet spreads and sauces
- yogurts and fromage frais

This report also includes an assessment of changes in sugar levels in drinks covered by the Soft Drinks Industry Levy (SDIL)<sup>6</sup>.

## Metrics used to measure progress

A series of metrics have been used to monitor progress and these can be mapped to the 3 options businesses are likely to be taking to reduce sugar content of products covered by the programme. Some businesses may choose to use just 1 of these options and some may choose to implement a combination. The options are:

- reducing the amount of sugar per 100g (reformulation)
- reducing the portion size of a product likely to be consumed in a single occasion
- shifting consumers' purchasing patterns towards lower or no added sugar products

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<sup>6</sup> The Soft Drinks Industry Levy covers drinks that contain added sugar and have total sugar levels of 5g per 100ml and over. The levy does not cover juices and milk-based drinks for which PHE published separate guidelines in May 2018. The first year of reporting on progress in juices and milk-based drinks is 2020.

## In-home retailer own brand and manufacturer branded products

This report uses 4 metrics for retailers and manufacturers to measure progress against the sugar reduction ambition.

## Metrics used in this report to assess progress of the sugar reduction programme for in-home retailer own brand and manufacturer branded products

### **Sales weighted average (SWA) total sugar content (g/100g)**

The average (mean) sugar content of each product is weighted by its total sales volume in weight (kilogrammes) to give more influence to products with higher sales. Thus, changes to the sugar content of products with higher sales will have a greater impact on the sales weighted average than changes for products with fewer sales. For the Soft Drinks Industry Levy (SDIL), sales in litres are used to weight the sugar content of each product to give a SWA per 100ml.

### **Simple average: the simple arithmetic average of total sugar content (g/100g)**

Products are not weighted according to volume sales in this calculation, so this measures the average (mean) sugar content of products regardless of how many are sold. Again there is a SDIL equivalent expressed as g/100ml.

### **Sales weighted average (SWA) calories in products likely to be consumed on a single occasion (single serve)**

This measure is restricted to a subset of products which are likely to be consumed in a single occasion. It is the average (mean) number of calories (expressed as kcals) per serving of each product, where the contribution of each product to the average is weighted by its total sales volume in servings.

Portion size has been estimated through analysis and consumption information and is not always the same as portion size information provided on product packaging by retailers or manufacturers.

The proportion of single serve products per category included in this analysis varies between categories with around three-quarters of products being included for morning goods but only around a third for chocolate and sweet confectionery. Breakfast cereals and sweet spreads and sauces are not included in this analysis as consumers take multiple servings out of individual packs and it is therefore not possible to measure single serve portions.

This metric is designed to adjust for any potential negative impacts of reducing sugar such as increasing calories at the same time or increasing the size of a portion.

(A simple average for calories is also used in some of the tables in the appendices which is restricted to those products likely to be consumed on a single occasion).

## Total sugar sales

This is the total volume of sugar sold, in tonnes, in the categories included in the programme. It is calculated by multiplying the sugar content of each product by the volume sales of that product. Therefore, it will reflect both changes in sales volumes and changes in sugar content of products.

The metrics align against the mechanisms available for change as shown in Box 1.

<b>Box 1: Metrics used to assess sugar reformulation programme for in-home retailer own brand and manufacturer branded products</b>				
<b>Metric</b>	<b>Simple average of sugar per 100g</b>	<b>Sales weighted average of sugar per 100g</b>	<b>Sales weighted average of calories per portion</b>	<b>Total sugar sales</b>
1. Reformulate to reduce sugar content in their products.	✓	✓	✓	✓
2. Reduce the portion size for products likely to be consumed in a single occasion.			✓	✓
3. Shift consumer purchasing patterns towards lower or no added sugar products.		✓	✓	✓

For manufacturers and retailers, the headline metrics in this report are largely based on the sales weighted average total sugar content per 100g, and the sales weighted average calories in products likely to be consumed on a single occasion, but it is important to also look at the other metrics to help monitor the full impact of the reformulation programme. The sales weighted average total sugar per 100g is used as the main metric for monitoring progress as it is based on all products purchased, whereas the calories metric is based on those which have a single serve portion size (as judged by PHE) which is a subset of all products purchased.

## Out of home sector

Following publication of the report on the first year's progress, PHE has reviewed the data and metrics for the out of home sector. For this and subsequent reports, PHE intends to use simple averages to track progress for the out of home sector rather than

using sales weighted averages. This is because of limitations with the commercially available dataset that PHE uses for this sector, which mean that it is not possible to link the nutrition data to purchases at product level with the same level of accuracy as it is for retailers and manufacturers. Therefore, only the following metrics are used for the out of home sector:

### **Metrics used in this report to assess progress of the sugar reduction programme for the out of home sector**

- 1 Simple average total sugar content per 100g (or 100ml for SDIL).
- 2 Simple average for calories in products likely to be consumed on a single occasion (single serve)

These metrics are also compared against the equivalent simple average metrics for retailer own brand and manufacturer branded products in the in-home sector.

### **Time periods covered**

For retailers and manufacturers in the in-home sector, comparisons are generally made between the baseline year of 2015 and 2018 (year 2) of the programme.

An exception relates to cakes and morning goods where the data for these categories in 2015 was not considered to be robust, and the data for subsequent years has been gradually improved to include more products. Therefore, the data for 2015 has not been used as the baseline and 2017 (year 1) has been used instead, with comparisons therefore being made between 2017 and 2018 for these 2 categories only.

While this also has some limitations, the 2017 data is more complete than the 2015 data for these categories so allows for more robust comparisons to be made. However, comparisons between 2017 and 2018 should still be made with caution, as data were collected for around 50% more products in 2018 compared with year 2017 (number of products can be seen in Appendix table 1).

The 2017 data for cakes and morning goods has been used to replace the 2015 data for these categories. This enables an overall comparison for all categories combined to be made with the updated baseline year of 2015. This may underestimate overall change between 2015 and 2018 as it essentially implies there has been no change for cakes and morning goods between 2015 and 2017.

See Appendix 2 for more information on this and other small changes in time periods used for comparisons.

For the out of home sector, comparisons are made between 2017 and 2018 making 2017 the baseline period for this sector.

## Data sources

### In-home (retailers and manufacturers)

The baseline and year 2 analyses for retailers' own brand and manufacturers' branded products use commercially available data from Kantar Worldpanel's consumer panel. This includes data on volume of sales and nutrition information. The baseline year for this report used data collected over 52 weeks ending 31 January 2016 and the year 2 dataset covers the 52 weeks ending 9 September 2018. Nutrition data is collected at category level on a rolling basis throughout the year and the frequency of data collection increased from every 6 months in the baseline year to every 4 months in year 2. Therefore, all categories will have been covered in the 4 months up to 9 September 2018.

Despite this improvement, some reformulation changes may not be picked up and reported on in the year that they occur if the reformulated products appeared on the shelves after the last set of nutrition data was collected for that category. More information on how Kantar collect this data is provided in Appendix 2.

Data for cakes and morning goods was not considered robust for 2015 and therefore data for 2017 has used to replace the 2015 data as mentioned previously.

As reported in the year 1 progress report, it is not possible to report on progress for Aldi and Lidl due to lack of baseline data. Data is now available for these retailers for 2017 (year 1) and 2018 (year 2), and therefore progress reported for these retailers and their products will be based on comparisons between year 1 and year 2.

There are no confidence intervals associated with the estimates calculated. This means that the statistical significance of the changes cannot be assessed.

### Out of home sector

The sales data comes from a commercially available dataset provided through a consumer survey run by MCA. Nutrition information for the eating out of home sector has been collected by PHE from businesses and additionally by MCA from business websites.

Comparisons are made between 2017 and 2018 and a fuller description of the out of home data is provided in Appendix 2.

As with the in-home sector, there are no confidence intervals associated with the estimates calculated. This means that the statistical significance of the changes cannot be assessed.

## Geographical coverage

Both the commercially available datasets cover Great Britain so therefore the results presented in this report are representative of Great Britain as a whole. A dataset covering just England was not available.

## Quality assurance

The data sources and methodology used in this report were presented to external stakeholders (including retailers, manufacturers, eating out of home businesses, trade bodies and non-governmental organisations) before the first-year progress report was produced. Feedback received from stakeholders was used to check that PHE's proposals, the category definitions, analytical methods and data sources used were appropriate.

The commercial datasets used from Kantar Worldpanel and MCA have quality control measures built into their production process. In addition, PHE has carried out its own quality control checks of all data used and all analyses in order to mitigate against issues remaining with the data. These include:

- checking datasets for implausible values, and excluding those from the analysis
- checking the consistency of nutrition variables across a product line
- cross-referencing to other datasets or online information
- replicating analyses as a quality control measure
- examining data behind business-specific results to ensure they are plausible and comparable (otherwise excluded)
- checking data against information supplied by businesses

Specific data checks and questions were sent to data suppliers as and when they arose, where there were anomalies or other queries over the collection of certain variables, or the viability of data collection from certain outlets.

## Obtaining permission to publish individual business data for retailers and manufacturers

Due to limitations placed on the use of individual business sales related data by Kantar Worldpanel, PHE requested written agreement from each retailer or manufacturer to show the percentage change in their SWA for sugar and calories. Where permission was not given, or no response was received, the relevant data is not included in Appendix Tables 2 and 3 and the appropriate reason is given next to the business name.

Of the 60 businesses that were contacted, 46 replied and gave permission; 5 replied and did not give permission; 9 did not reply.

## Case studies

Businesses were invited to submit case studies with supporting quantitative data for products in their business portfolio for each of the sugar reduction categories and drinks covered by the Soft Drinks Industry Levy<sup>7</sup>. Details of how case study data were collected and reviewed by PHE can be found in Appendix 3. This information has been used to provide additional evidence of industry activity and progress to date where this may not be reflected by the analysis included in the report. Case studies showing reformulation activity are included if they took place in 1 of the following 2 time periods:

- between year 1 and year 2 (September 2017 to September 2018)
- post-year 2 (September 2018 to February 2019)

Case studies from 48 businesses are included in Appendix 3.

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<sup>7</sup> This does not include juices and milk-based drinks for which PHE published guidelines in 2018 and where the first assessment of progress will be published in 2020

# Results

## Introduction

This chapter has 3 sections as follows:

1. In-home sector: presents information for retailers and manufacturers. It includes analysis of changes between the baseline and year 2.
2. Out of home sector which looks at changes between year 1 and year 2.
3. Soft Drinks Industry Levy (SDIL) which also includes an analysis by socio-economic group for the in-home sector.

The analysis is supplemented by detailed tables which accompany this report. These are described in Appendix 1.

All percentage changes presented in this report have been calculated from unrounded data, so it may not be possible to reproduce them from the rounded data which follows.

## In-home sector

### Sales weighted average total sugar content per 100g for retailer own brand and manufacturer branded products

The sales weighted average is quoted in Chapter 1 of the Childhood Obesity Plan<sup>xii</sup> as the main metric by which progress towards the 20% reduction ambition will be measured. However, while this metric will capture a lot of reformulation work, there are some limitations on whether it captures all reformulation activity; these limitations are discussed in Appendix 2. Despite these limitations however, it remains the best metric to assess progress against the 20% reduction ambition.

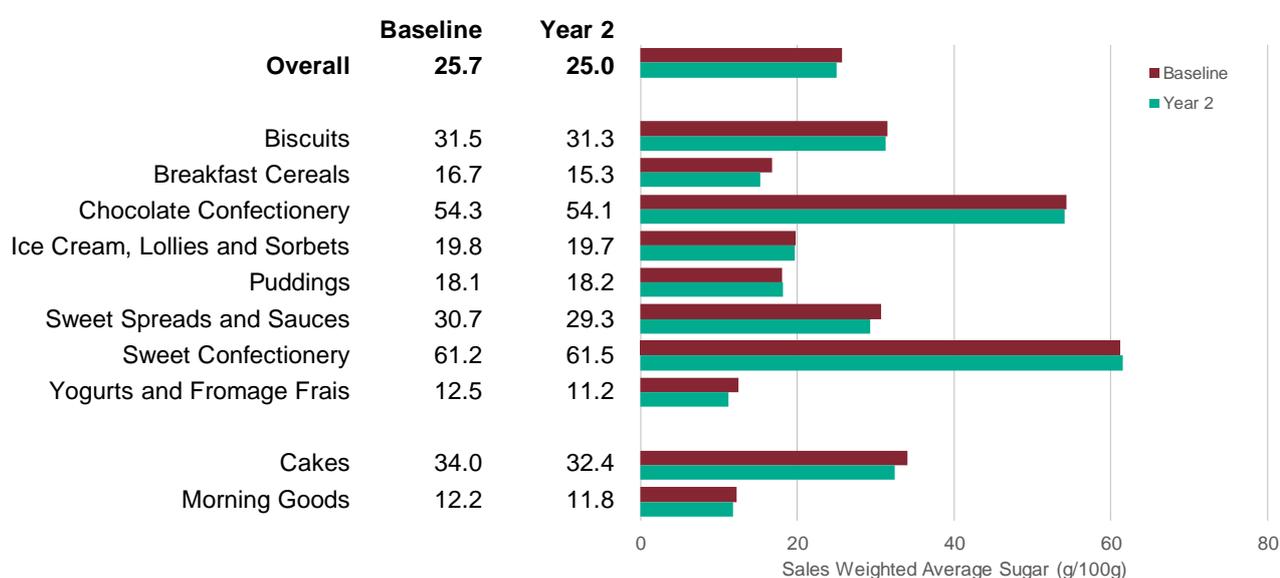
Figures 1 and 2 show the sales weighted average total sugar content per 100g both overall, and at product category level, for baseline (2015) and year 2 (2018) and the change between this period.

For retailers and manufacturers, they show that:

- overall there was a 2.9% reduction in total sugar per 100g in products sold between baseline (2015) and year 2 (2018)
- there were larger reductions for some specific product categories (yogurts and fromage frais down 10.3% and breakfast cereals down 8.5% compared with 2015)

- there was a reduction of 4.6% for sweet spreads and sauces compared with 2015<sup>8</sup>
- there were reductions of 4.8% for cakes and 3.6% for morning goods, compared with their baseline of 2017<sup>9</sup>
- there were much smaller changes for other categories: biscuits; chocolate confectionery; and, ice cream, lollies and sorbets
- there were small increases for 2 categories: puddings; and, sweet confectionery (Table 1)

**Figure 1: Sales weighted average total sugar (g/100g) by category for baseline (2015) and year 2 (2018) for retailer own brand and manufacturer branded products**

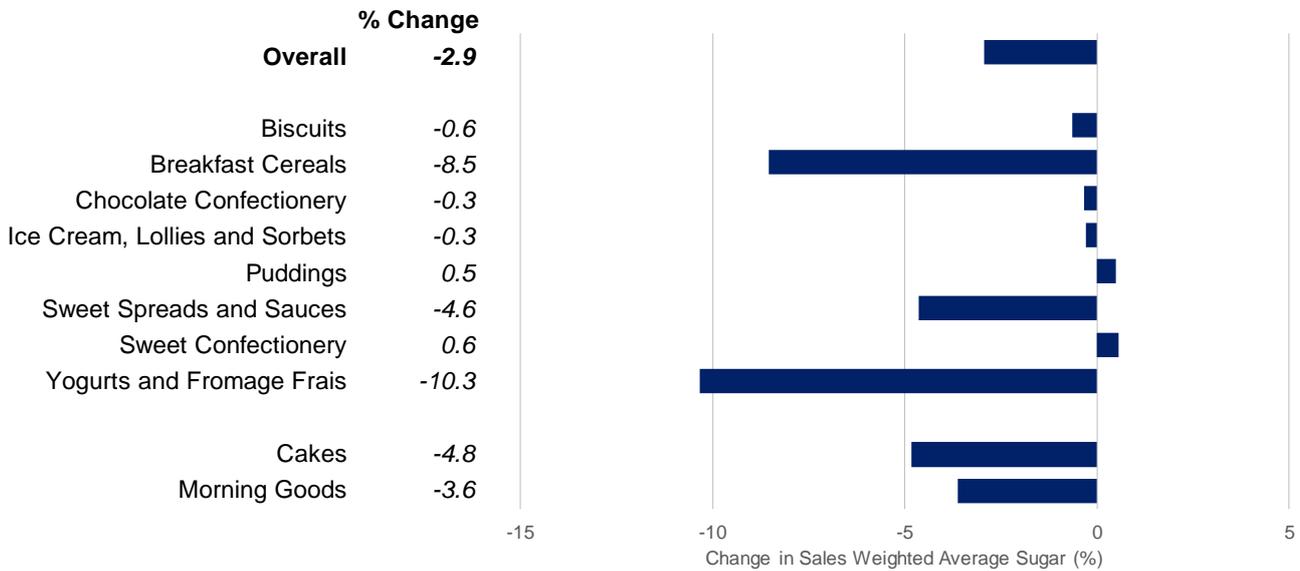


Note: The baseline year for cakes and morning goods is 2017 rather than 2015. However, data for cakes and morning goods for 2017 has been copied into 2015 so these categories are included in the "Overall" row.

<sup>8</sup> The decrease for spreads and sauces is largely due to an increase in the proportion of sales in that category which are due to peanut butter. Peanut butter has a much lower sugar content than chocolate spreads, fruit spreads and desert toppings which make up the remainder of that category. Therefore, an increase in the proportion of sales for peanut butter relative to the other products resulted in a decrease in the sales weighted average total sugar g/100g, even though there was actually an increase in sugar content for most peanut butter brands.

<sup>9</sup> Only a small amount of data was collected for cakes and morning goods in 2015 so progress is being compared with a baseline year of 2017. More information is given in the methodology chapter and Appendix 2.

**Figure 2: Percentage change in sales weighted average total sugar (g/100g) by category between baseline (2015) and year 2 (2018) for retailer own brand and manufacturer branded products**



Note: The baseline year for cakes and morning goods is 2017 rather than 2015. However, data for cakes and morning goods for 2017 has been copied into 2015 so these categories are included in the "Overall" row.

### Simple average total sugar content per 100g for retailer own brand and manufacturer branded products

This metric is a simple arithmetic average of the products purchased in each category and therefore does not give more influence to those products which have higher sales. This metric is used later in this chapter to compare retailers and manufacturers with businesses operating in the out of home sector.

Figures 3 and 4 show the simple average at both overall, and product category level, for baseline (2015) and year 2 (2018), and the change between this period.

For retailers and manufacturers, they show that:

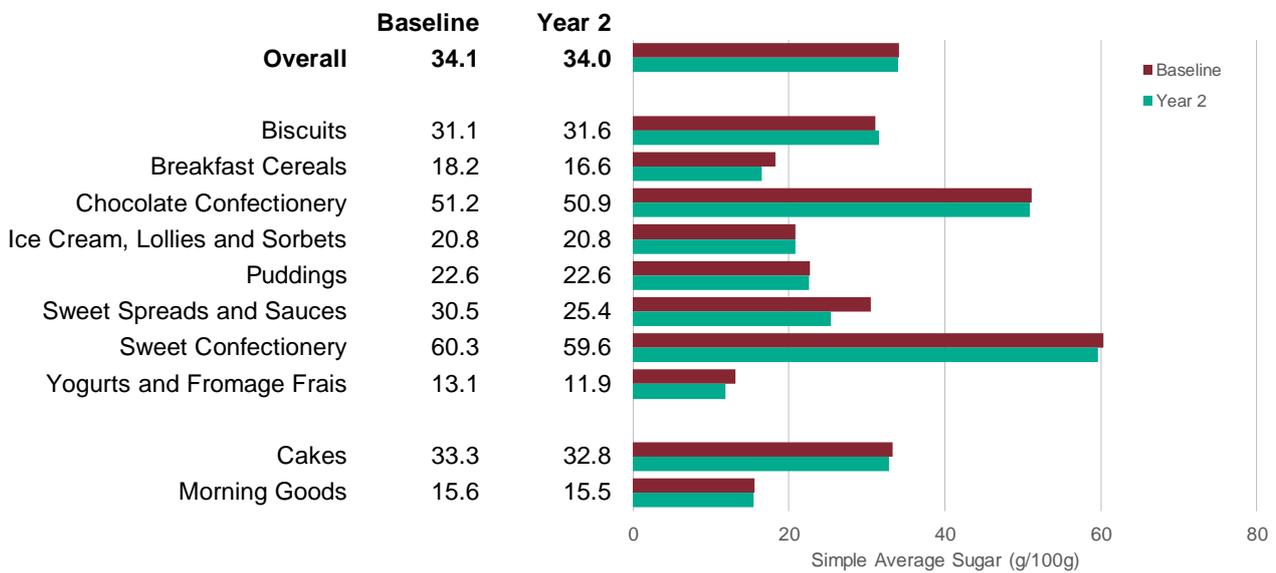
- overall there has been hardly any change in the simple average total sugar per 100g (34.1g/100g in 2015 and 34.0g/100g in 2018)
- the largest decreases at a category level were 16.7% for sweet spreads and sauces, 9.1% for breakfast cereals and 9.1% for yogurts and fromage frais
- other categories had much smaller changes, and there was an increase for biscuits of 1.6%
- there was a decrease for cakes (down 1.4%) and morning goods (down 0.5%) since 2017<sup>10</sup> (Table 1)

<sup>10</sup> Only a small amount of data was collected for cakes and morning goods in 2015 so progress is being compared with a baseline year of 2017. More information is given in the methodology chapter and Appendix 2.

In general, the changes seen in the simple averages for each category are similar to those seen for the sales weighted averages. The most noticeable difference is for spreads and sauces which had a decrease of 16.7% for the simple average compared with a decrease of 4.6% for the sales weighted average. This is mainly due to one of the largest selling brands not changing their sugar content between baseline and year 2.

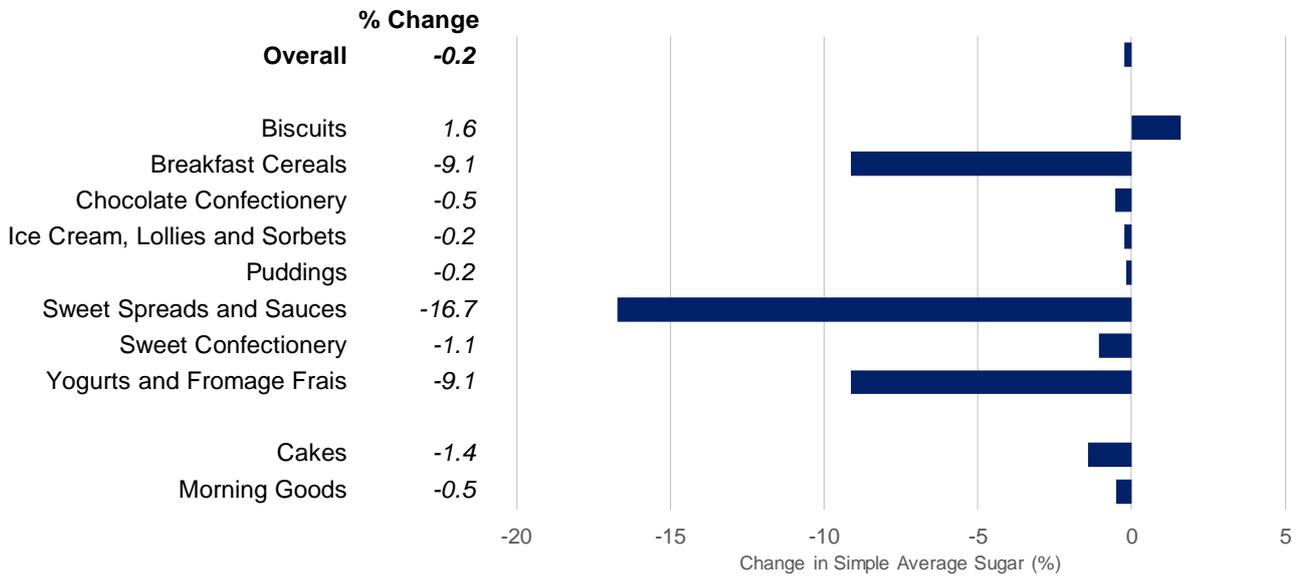
As the products within this brand account for around 20% of sales they have quite a large influence on the sales weighted average, but the same influence as all the other products in this category on the simple average.

**Figure 3: Simple average total sugar (g/100g) by category for baseline (2015) and year 2 (2018) for retailer own brand and manufacturer branded products**



Note: The baseline year for cakes and morning goods is 2017 rather than 2015. However, data for cakes and morning goods for 2017 has been copied into 2015 so these categories are included in the "Overall" row.

**Figure 4: Percentage change in simple average total sugar (g/100g) by category between baseline (2015) and year 2 (2018) for retailer own brand and manufacturer branded products**



Note: The baseline year for cakes and morning goods is 2017 rather than 2015. However, data for cakes and morning goods for 2017 has been copied into 2015 so these categories are included in the "Overall" row.

**Sales weighted average calories in products likely to be consumed on a single occasion (single serve) for retailer own brand and manufacturer branded products**

For some categories such as chocolate and sweet confectionery the mechanisms for action are more limited due to technical limitations and issues around consumer acceptability. This may mean that the primary mechanism that businesses can use is to reduce the portion size of the product because reducing sugar content may alter the taste/texture of the product quite significantly which could affect sales. Products that are likely to be consumed on a single occasion and a portion size could be calculated were identified and the following analysis is restricted to that subset.

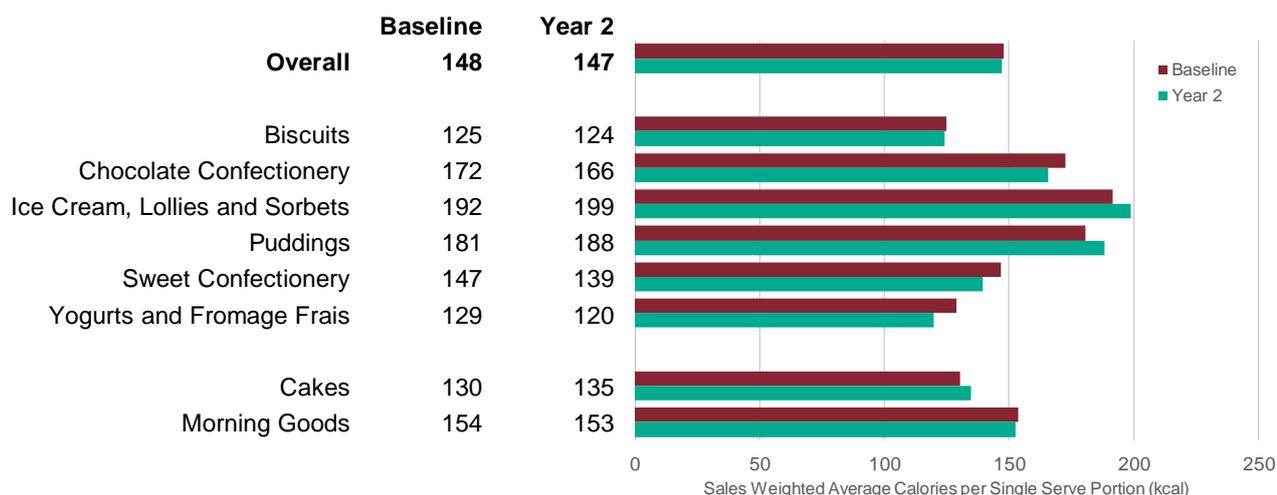
Changes over time which are discussed in the remainder of this section may be due to portion sizes of existing products changing and/or new products being introduced which have different portion sizes to those already on the market.

Figures 5 and 6 show the sales weighted average (SWA) for calories in a single serve portion at category and overall level for baseline (2015) and year 2 (2018), and the change during this period.

For retailers and manufacturers, they show that:

- overall there has been hardly any overall change, since 2015, in calories in products likely to be consumed on a single occasion (148 kcals per portion in 2015 and 147 kcals in 2018)
- there have been some changes at category level and the largest decreases were 7.1% for yogurts and fromage frais, 5.1% for sweet confectionery and 4.0% for chocolate confectionery
- the largest increases were 4.3% for puddings and 3.8% for ice creams, lollies and sorbets
- cakes had an increase of 3.5% against their 2017 baseline<sup>11</sup>
- other categories had smaller changes (Table 3)

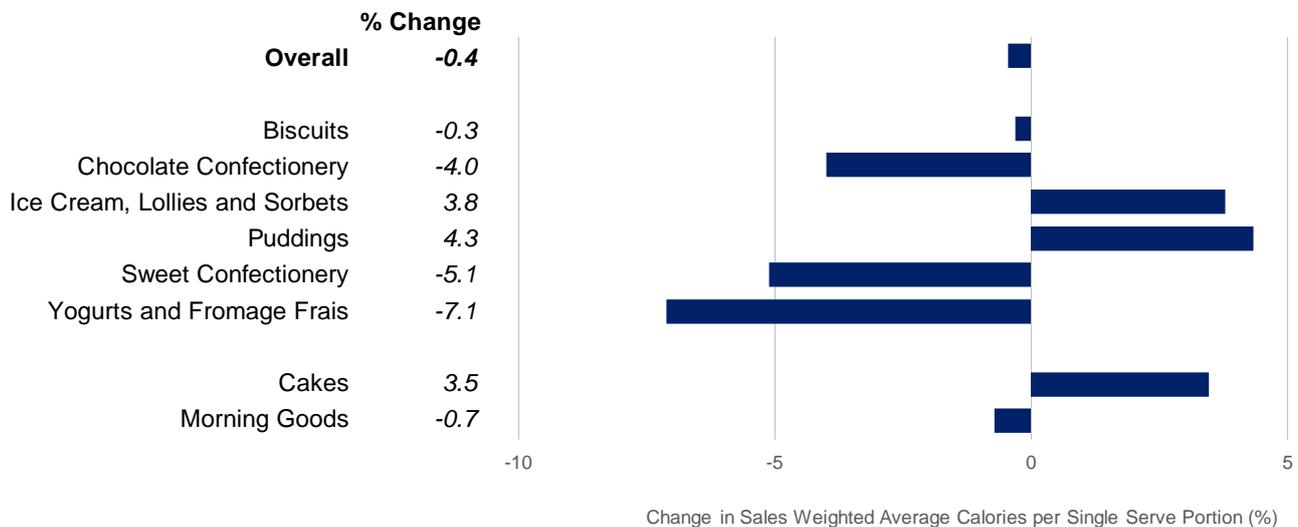
**Figure 5: Sales weighted average calories (kcals) for products likely to be consumed on a single occasion by category for baseline (2015) and year 2 (2018) for retailer own brand and manufacturer branded products**



Note: The baseline year for cakes and morning goods is 2017 rather than 2015. However, data for cakes and morning goods for 2017 has been copied into 2015 so these categories are included in the "Overall" row.

<sup>11</sup> Only a small amount of data was collected for cakes and morning goods in 2015 so progress is being compared with a baseline year of 2017. More information is given in the methodology chapter and Appendix 2.

**Figure 6: Percentage change in sales weighted average calories for products likely to be consumed on a single occasion by category between baseline (2015) and year 2 (2018) for retailer own brand and manufacturer branded products**



Note: The baseline year for cakes and morning goods is 2017 rather than 2015. However, data for cakes and morning goods for 2017 has been copied into 2015 so these categories are included in the "Overall" row.

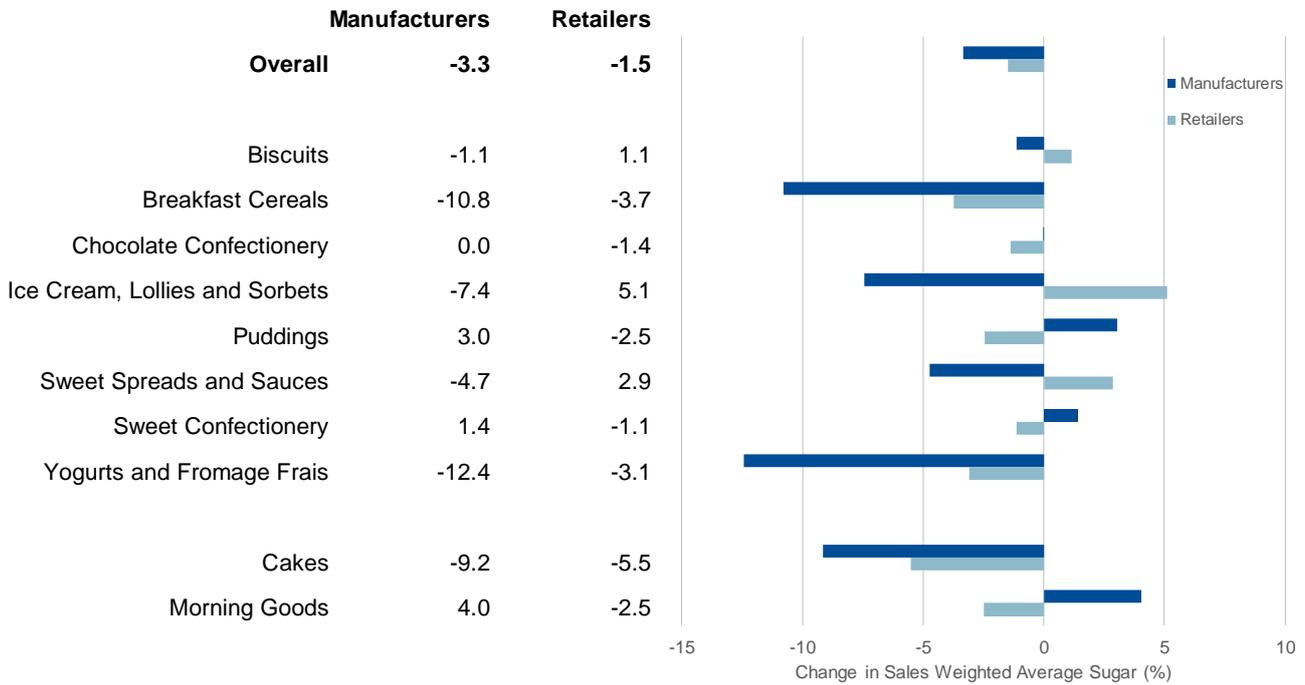
### Differences between manufacturers and retailers

This section compares progress made by manufacturers for their branded products and retailers for their own brand products using the SWA total sugar content per 100g (Figure 7), and the SWA calories for products likely to be consumed on a single occasion (Figure 8).

It can be seen that:

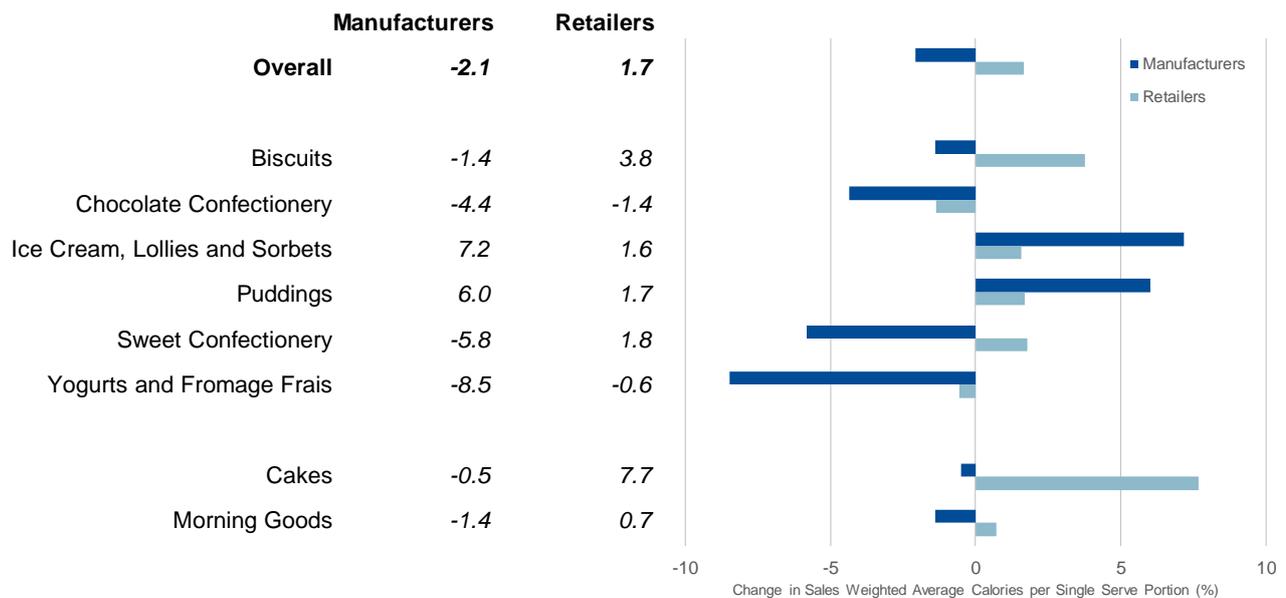
- overall, manufacturers made more progress than retailers for total sugar per 100g (decreasing 3.3% and 1.5% respectively)
- this was also the case for calories for products likely to be consumed on a single occasion where manufacturers had a decrease of 2.1% while retailers had an increase of 1.7%
- in terms of sugar per 100g, manufacturers made greater progress than retailers for most categories (biscuits, breakfast cereals, ice cream, lollies and sorbets, sweet spreads and sauces, yogurts and fromage frais, and cakes)
- however, this was not the case for chocolate confectionery, puddings, sweet confectionery and morning goods where retailers made more progress
- for calories per portion, manufacturers made more progress than retailers for biscuits, chocolate confectionery, sweet confectionery, yogurts and fromage frais, cakes and morning goods
- however, this was not the case for ice cream, lollies and sorbets, and puddings where retailers had smaller increases in calories per portion than manufacturers (Tables 2 and 4)

**Figure 7: Percentage change in sales weighted average total sugar per 100g by category between baseline (2015) and year 2 (2018) for retailer own brand and manufacturer branded products**



Note: The baseline year for cakes and morning goods is 2017 rather than 2015. However, data for cakes and morning goods for 2017 has been copied into 2015 so these categories are included in the "Overall" row.

**Figure 8: Percentage change in sales weighted average calories for products likely to be consumed on a single occasion by category between baseline (2015) and year 2 (2018) for retailer own brand and manufacturer branded products**



Note: The baseline year for cakes and morning goods is 2017 rather than 2015. However, data for cakes and morning goods for 2017 has been copied into 2015 so these categories are included in the "Overall" row.

## Progress at brand level

This section looks at the brand level analysis reported in Appendix Table 4. The top selling 20 brands in each category (based on volume of sales) were analysed for changes in sugar content. The analysis was done separately for the top 20 selling retailer own brands and top 20 selling manufacturer brands<sup>12</sup>.

Any brand owned by businesses who did not give permission for their sales weighted averages to be shown have had their figures suppressed in the report tables. There were also some businesses which did not respond to the request to show their data plus others where their results were removed as they were not felt to be comparable between the baseline and year 2<sup>13</sup>.

Case studies submitted by businesses outlining reformulation activity which has taken place between year 1 and year 2 (September 2017 to September 2018), and also post-year 2 (September 2018 to February 2019), and therefore not included in the purchasing data used in this analysis can be seen in Appendix 3.

326 retailer own brands and manufacturer brands were analysed and of these, figure 9 shows that:

- 110 brands (34%) showed a decrease in SWA total sugar content per 100g of more than 2%<sup>14</sup>
- 62 brands (19%) showed an increase in SWA total sugar content per 100g of more than 2%
- 154 brands (47%) showed either no change or a change of less than 2% (Appendix Table 4)

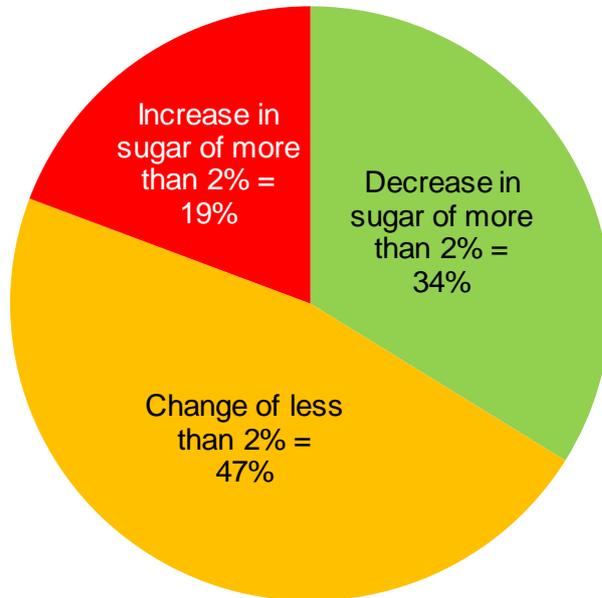
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<sup>12</sup> Manufacturer brands were only included if they contributed more than 1% of sales in both the baseline year and year 2. This was to avoid including comparisons which may only be based on a small number of products.

<sup>13</sup> In all these cases, the data for these brands was still used to calculate overall and category level averages.

<sup>14</sup> 2% was chosen so that a reasonable number of brands would show a difference of more than this given that the average decrease is 2.9%.

**Figure 9: Proportion of brands showing changes of 2% or more in the sales weighted average total sugar per 100g between baseline (2015) and year 2 (2018)**



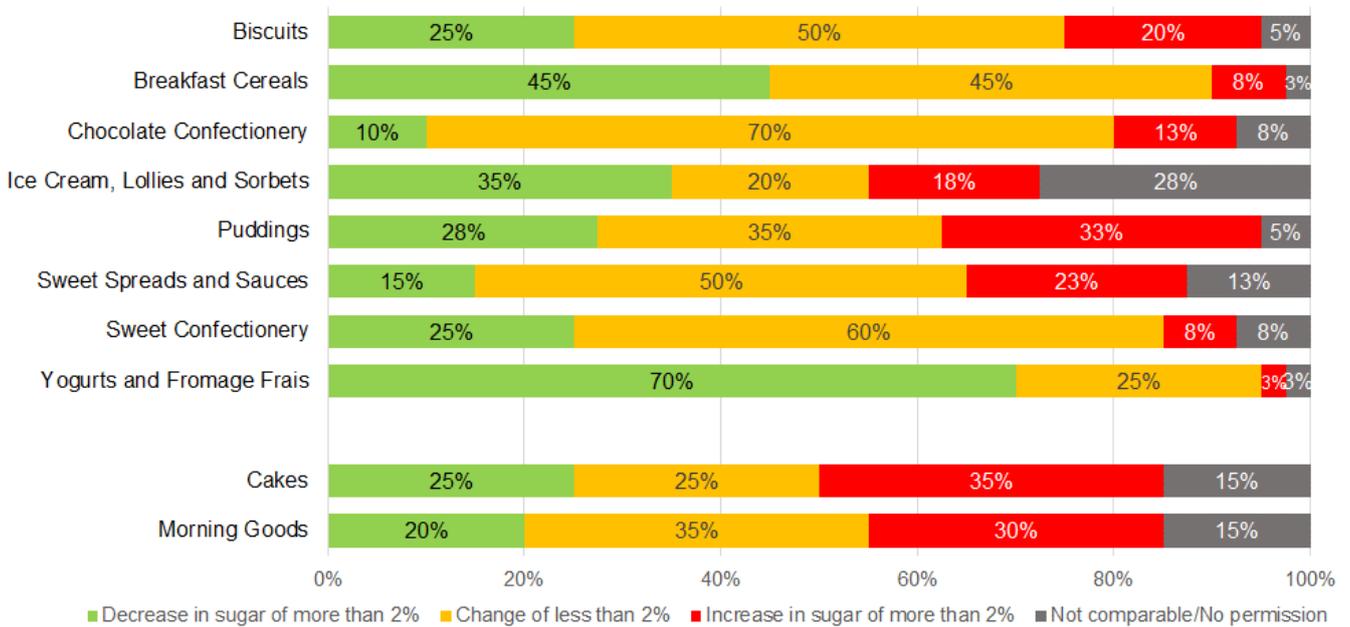
Note: Cakes and morning goods were compared against their baseline of year 1.

Figure 10 shows the same information but within category. It also includes the proportion of brands where the sales weighted averages were either not comparable between years, or the business did not give permission for their data to be shown.

It shows that:

- yogurts and fromage frais (70%) and breakfast cereals (45%) had the highest proportion of brands with a decrease in their sales weighted average total sugar per 100g of 2% or more
- cakes (35%), puddings (33%) and morning goods (30%) were the categories with the highest proportion of brands increasing their sales weighted average total sugar per 100g by 2% or more (note that cakes and morning goods are assessed against a baseline of 2017 as the data for 2015 is not robust) (Appendix Table 4)

**Figure 10: Proportion of brands showing changes of 2% or more in the sales weighted average total sugar per 100g between baseline (2015) and year 2 (2018) by category**



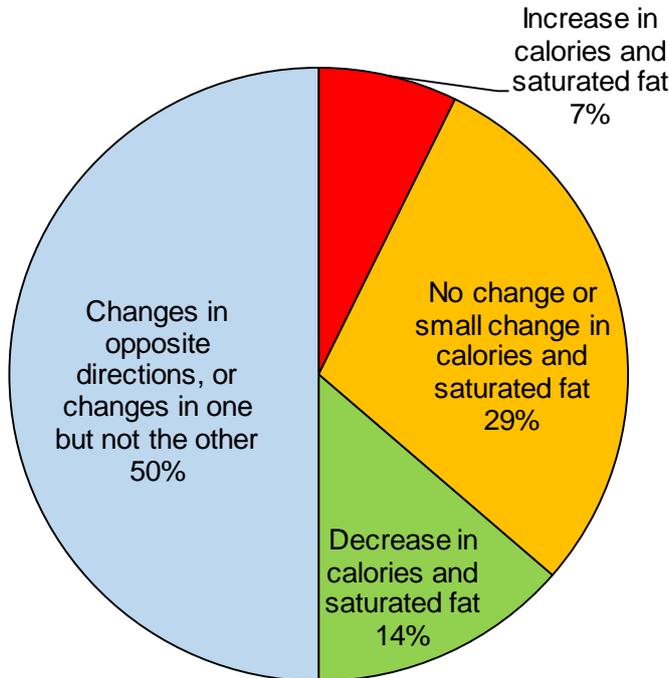
For the 110 brands which showed a decrease in SWA sugar content of more than 2%, it is important to see if this has resulted in an increase in other nutrients particularly calories and saturated fat.

Of these brands, figure 11 shows that:

- 15 brands (14%) showed a decrease in calories of more than 2% and a decrease in saturated fat of more than 10%<sup>15</sup>
- 32 brands (29%) showed no change or a change of less than 2% in calories and a change of less than 10% in saturated fat
- 8 brands (7%) showed an increase in calories of more than 2% and an increase in saturated fat of more than 10%
- the remaining 55 brands (50%), showed changes in opposite directions for calories and saturated fats, or a change in 1 but not the other (Appendix Table 4)

<sup>15</sup> 10% was chosen as it would clearly show where brands were clearly adding saturated fat to compensate for an decrease in sugar.

**Figure 11: Analysis of changes in calories and saturated fat for top selling brands with more than a 2% decrease in sugar**



Note:

1. Cakes and morning goods were compared against their baseline of year 1.
2. Brands are assessed against a 2% change in SWA per 100g for calories and a 10% change for saturated fat per 100g.

It is also important to also look at changes in salt content and this can be seen in Appendix Table 4.

### Progress at business level

Figure 12 shows comparisons between baseline (2015) and year 2 (2018) for the SWA total sugar g/100g at business level for retailers and manufacturers. The green dotted line shows the 20% reduction guideline for 2020 and it shows that very few businesses have reached this guideline so far, and some had increases in their SWA total sugar g/100g. (Appendix Table 2)

A restriction on the use of the data from Kantar Nutrition meant that businesses had to give their permission to have their results shown in Figure 12 and Appendix Table 2. Therefore, some data is missing from the table where permission was not given, and some additional data has been removed where there were concerns around the comparability of the results between baseline and year 2.

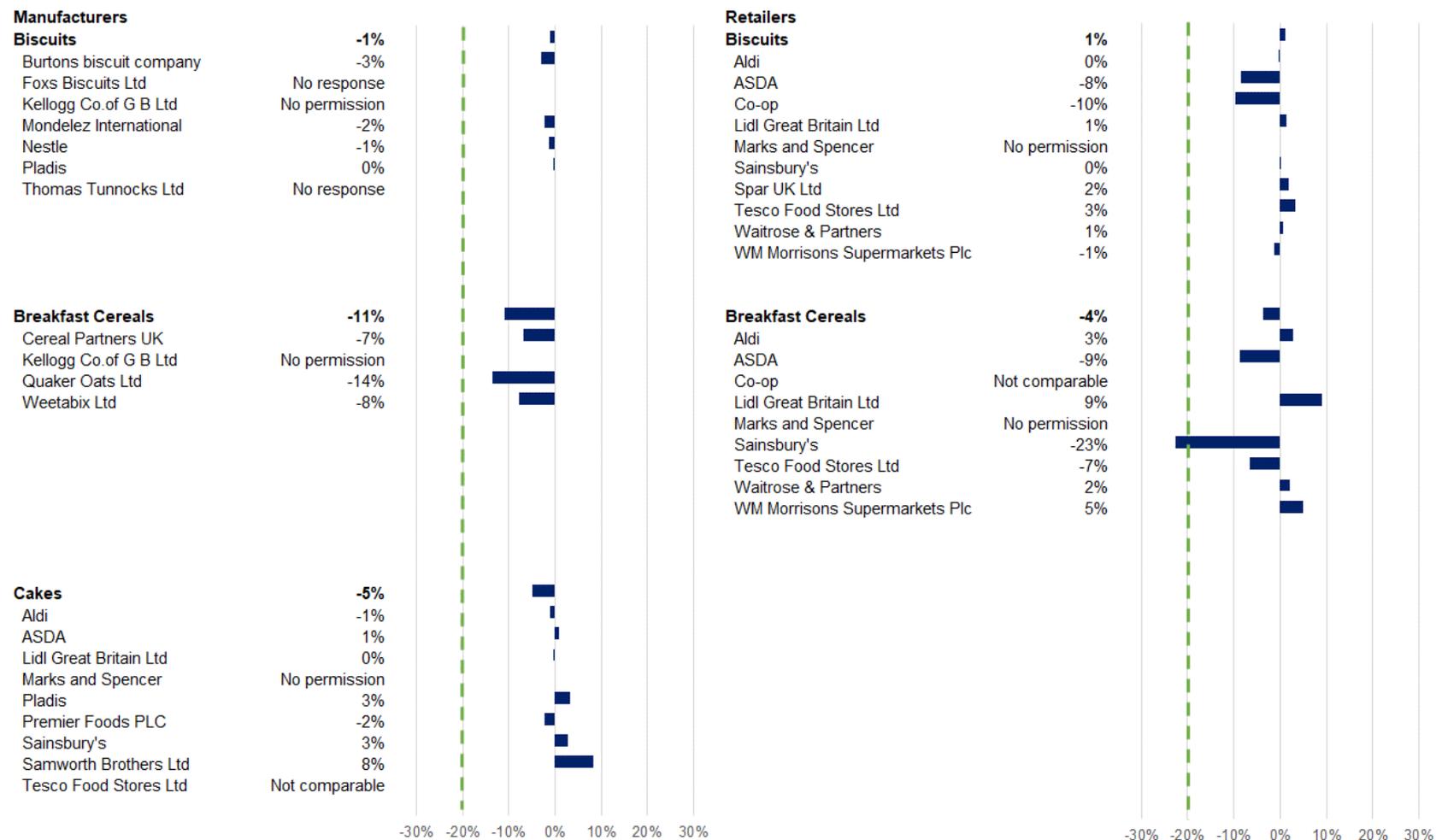
Figure 13 shows a similar comparison between baseline (2015) and year 2 (2018) for the SWA calories (kcal) for products likely to be consumed on a single occasion at business level for retailers and manufacturers. (Appendix Table 3)

The same restrictions apply in term of requiring permission to show these figures and non-comparable figures have also been removed.

### Progress at product level

Appendix Table 5 shows the calories in products consumed on a single occasion for the top 30 products by total servings for each category. Of the 165 products where it is possible to make a comparison between the baseline and year 2, 46 (28%) show a decrease in calories per serving of 2% or more.

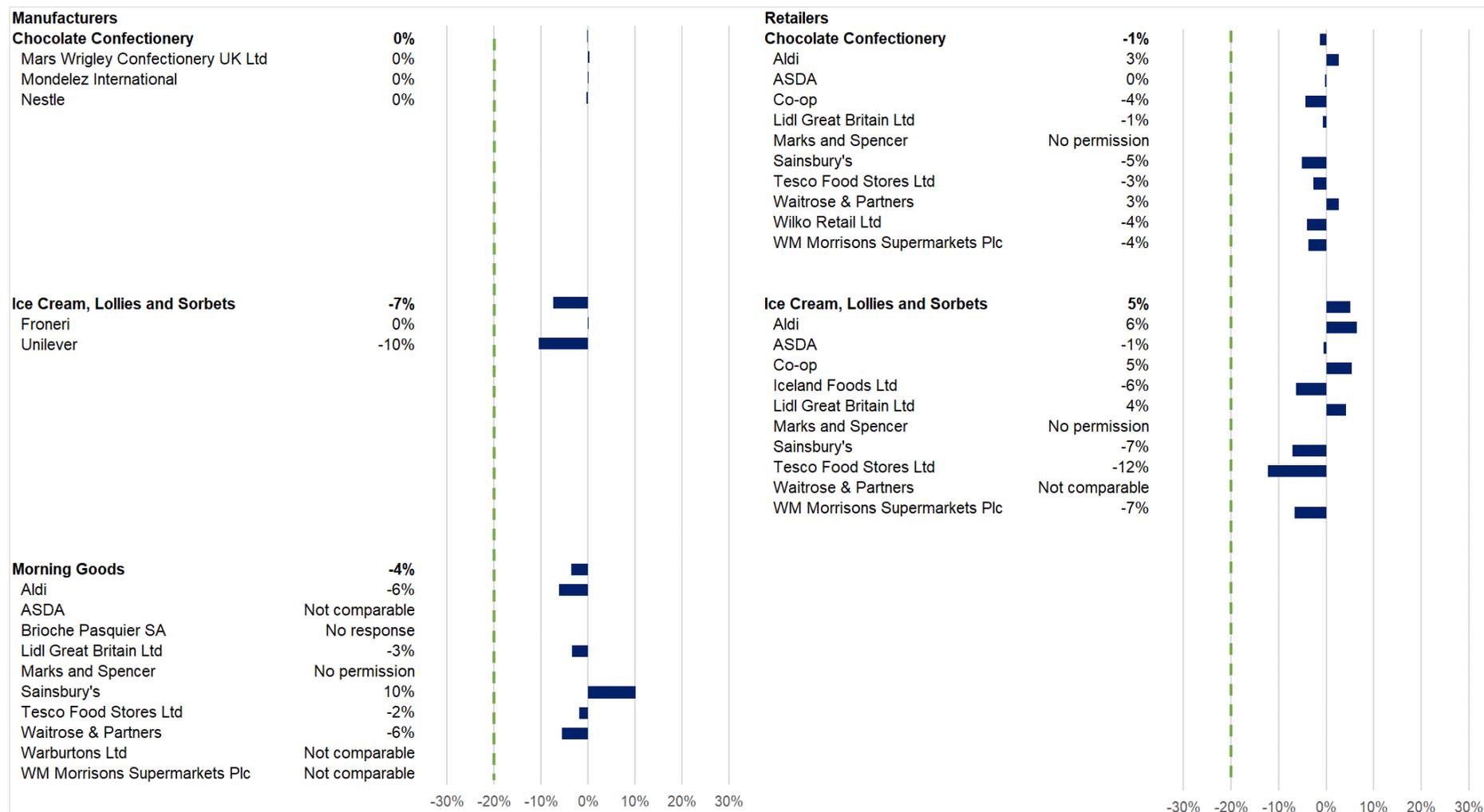
**Figure 12: Changes in sales weighted average total sugar per 100g by category and business between baseline (2015) and year 2 (2018) for retailers and manufacturers**



Note:

1. The baseline year for cakes and morning goods is 2017 rather than 2015. The list of businesses for cakes and morning goods is a combined list of manufacturers and retailers.
2. Manufacturers and retailers are listed in alphabetical order within each category. They are not listed by volume of sugar sales. The list includes those who account for the top 80% of sugar sales. For manufacturers, any businesses which did not have at least 1% of sales in 2015 and 2018 were removed.

## Sugar reduction: Report on progress between 2015 and 2018

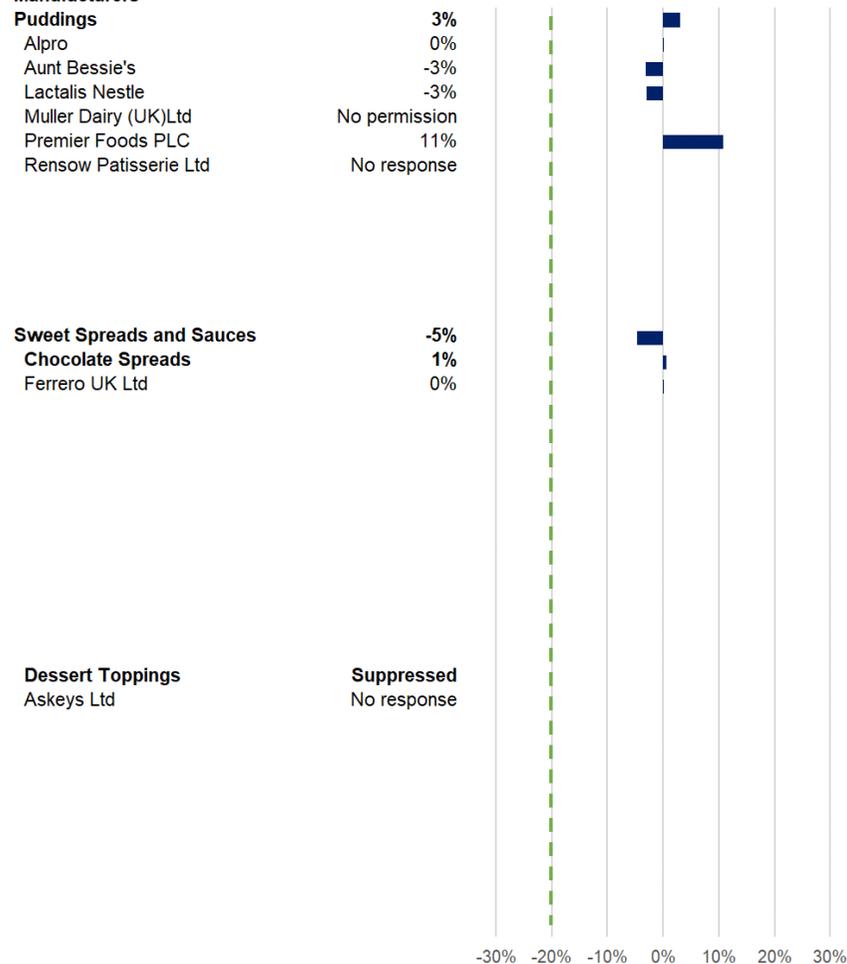


**Note:**

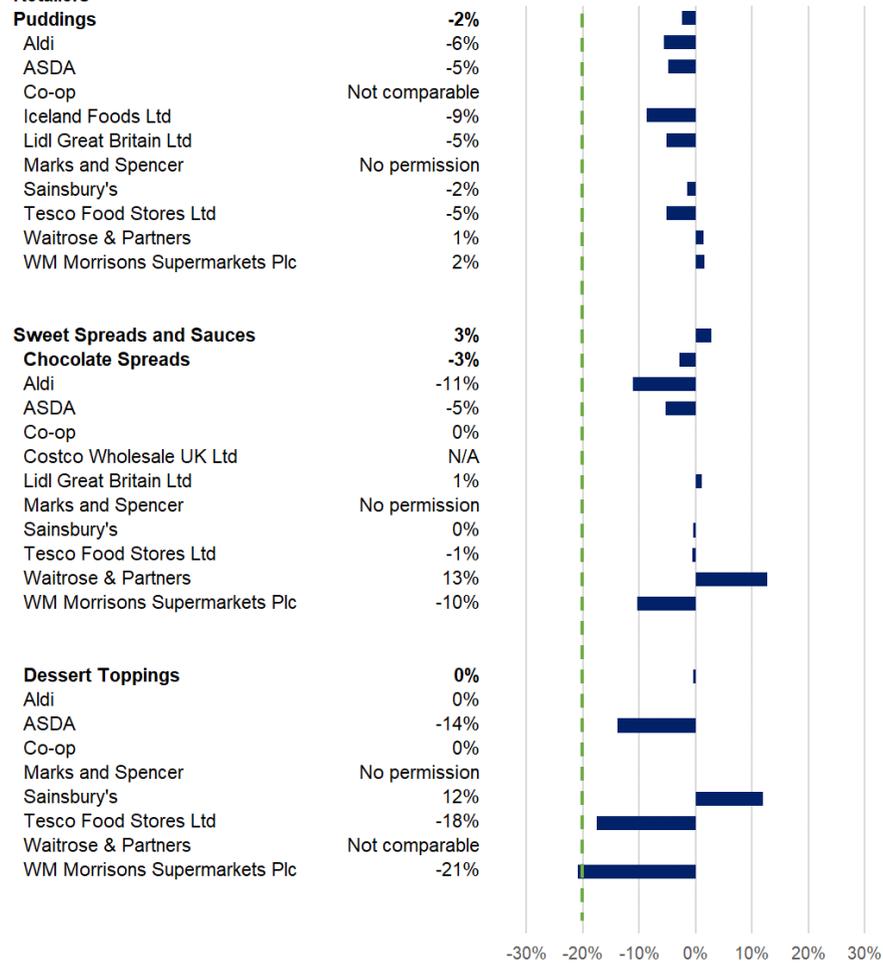
1. The baseline year for cakes and morning goods is 2017 rather than 2015. The list of businesses for cakes and morning goods is a combined list of manufacturers and retailers.
2. Manufacturers and retailers are listed in alphabetical order within each category. They are not listed by volume of sugar sales. The list includes those who account for the top 80% of sugar sales. For manufacturers, any businesses which did not have at least 1% of sales in 2015 and 2018 were removed.

## Sugar reduction: Report on progress between 2015 and 2018

### Manufacturers



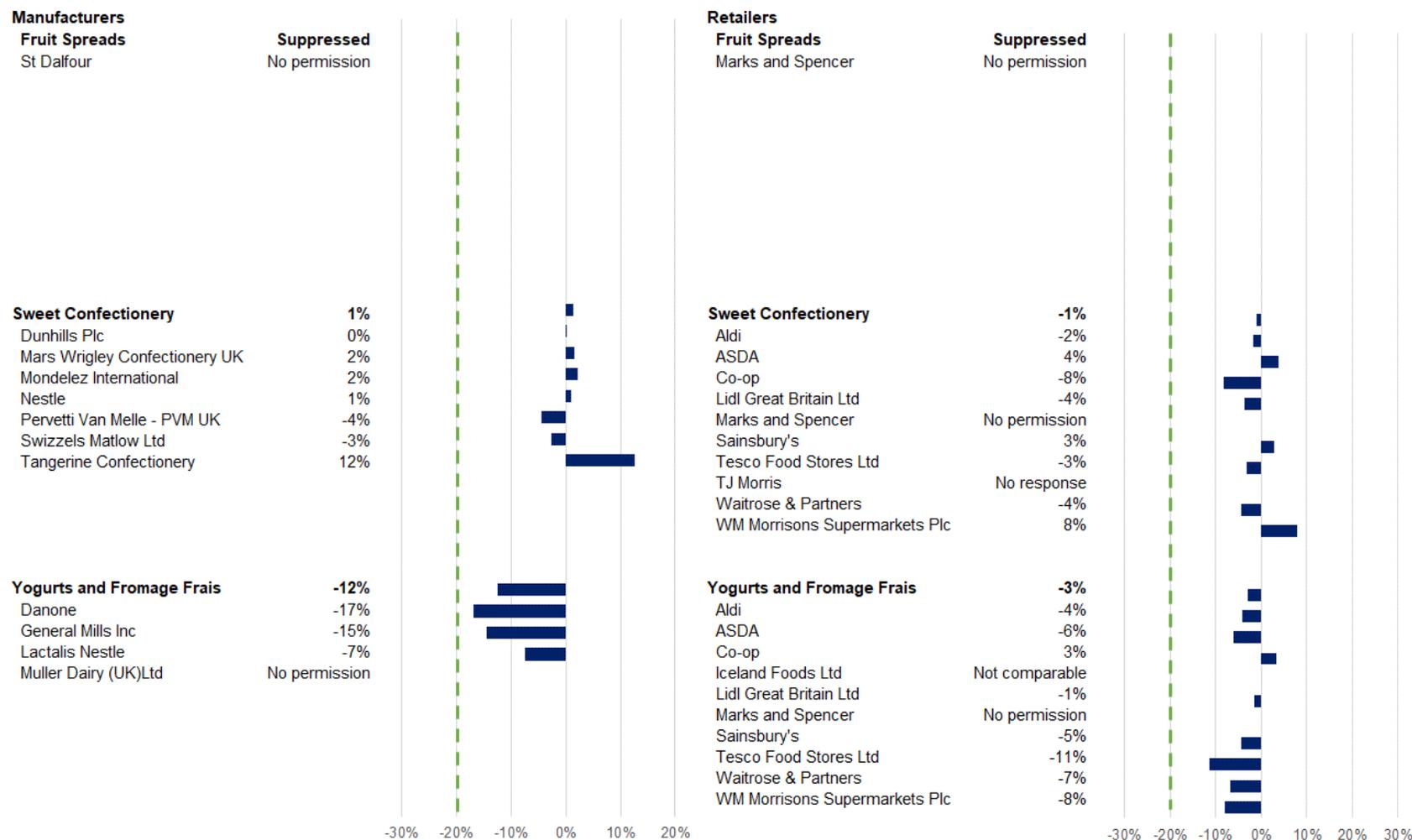
### Retailers



#### Note:

1. The baseline year for cakes and morning goods is 2017 rather than 2015. The list of businesses for cakes and morning goods is a combined list of manufacturers and retailers.
2. Manufacturers and retailers are listed in alphabetical order within each category. They are not listed by volume of sugar sales. The list includes those who account for the top 80% of sugar sales. For manufacturers, any businesses which did not have at least 1% of sales in 2015 and 2018 were removed.

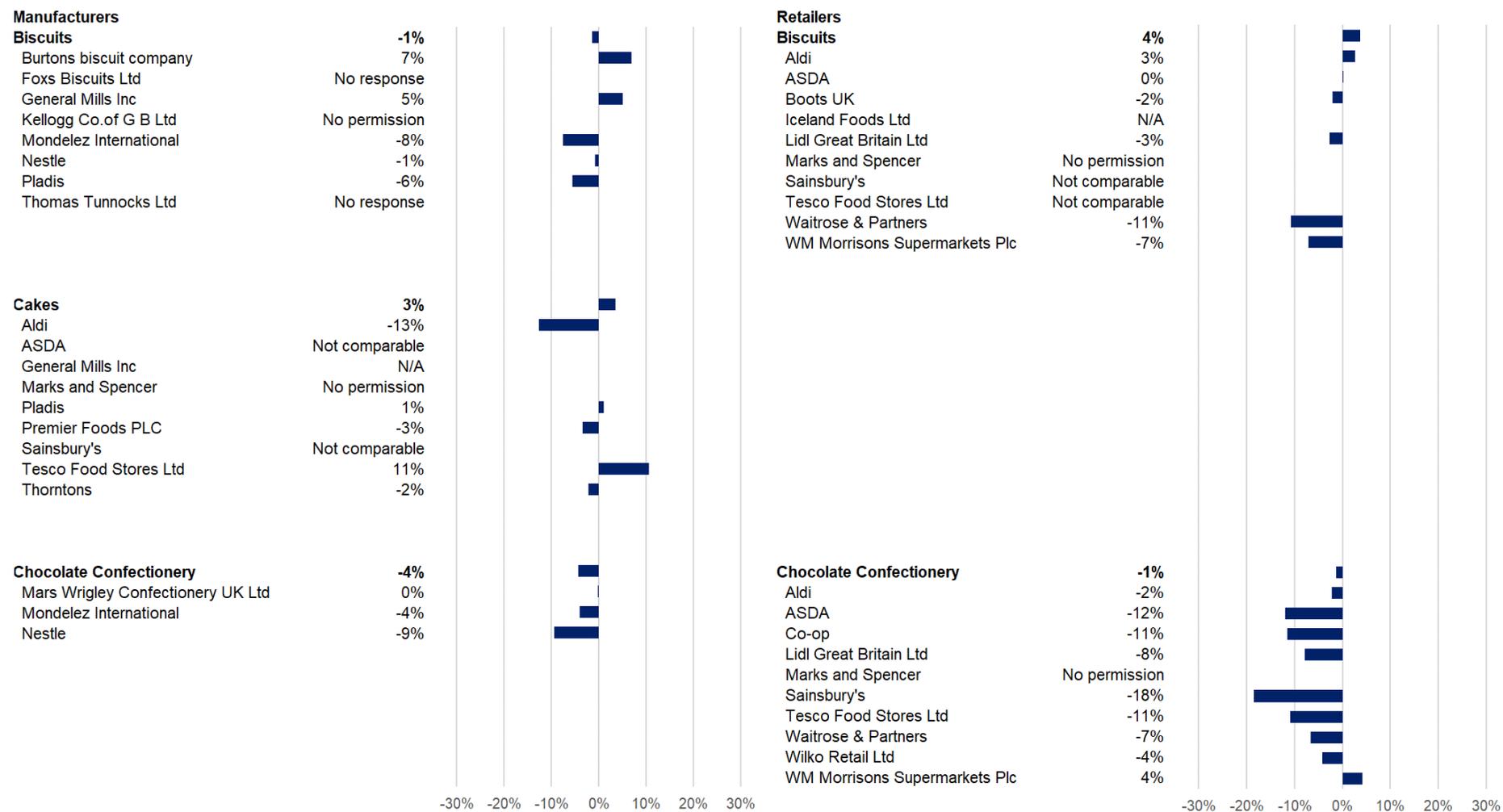
## Sugar reduction: Report on progress between 2015 and 2018



Note:

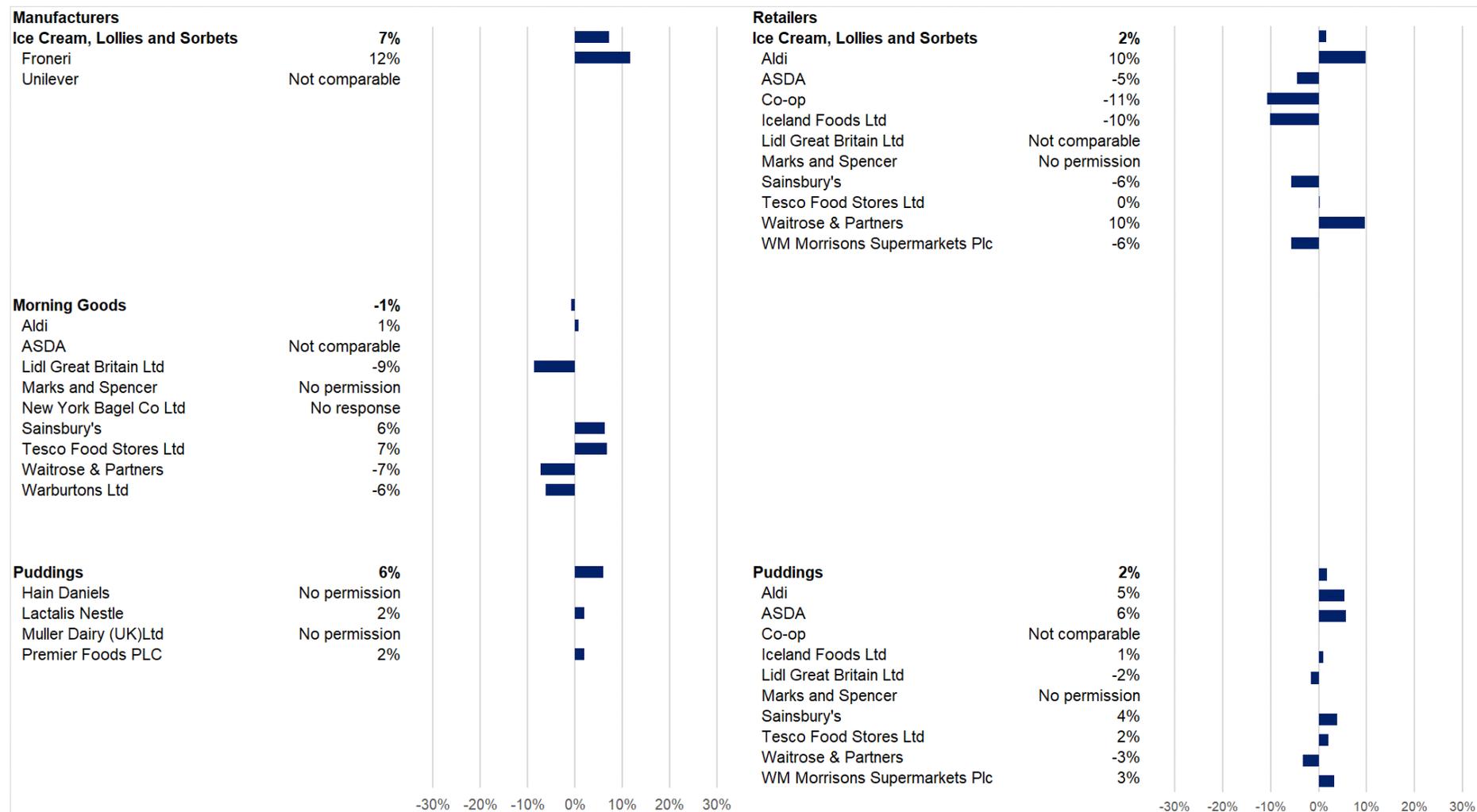
1. The baseline year for cakes and morning goods is 2017 rather than 2015. The list of businesses for cakes and morning goods is a combined list of manufacturers and retailers.
2. Manufacturers and retailers are listed in alphabetical order within each category. They are not listed by volume of sugar sales. The list includes those who account for the top 80% of sugar sales. For manufacturers, any businesses which did not have at least 1% of sales in 2015 and 2018 were removed.

**Figure 13: Changes in sales weighted average calories (kcal) for products likely to be consumed on a single occasion by category and business between baseline (2015) and year 2 (2018) for retailers and manufacturers**



Note:  
 1. The baseline year for cakes and morning goods is 2017 rather than 2015. The list of businesses for cakes and morning goods is a combined list of manufacturers and retailers.  
 2. Manufacturers and retailers are listed in alphabetical order within each category. They are not listed by volume of servings. The list includes those who account for the top 80% of servings. For manufacturers, any businesses which did not have at least 1% of servings in 2015 and 2018 were removed.

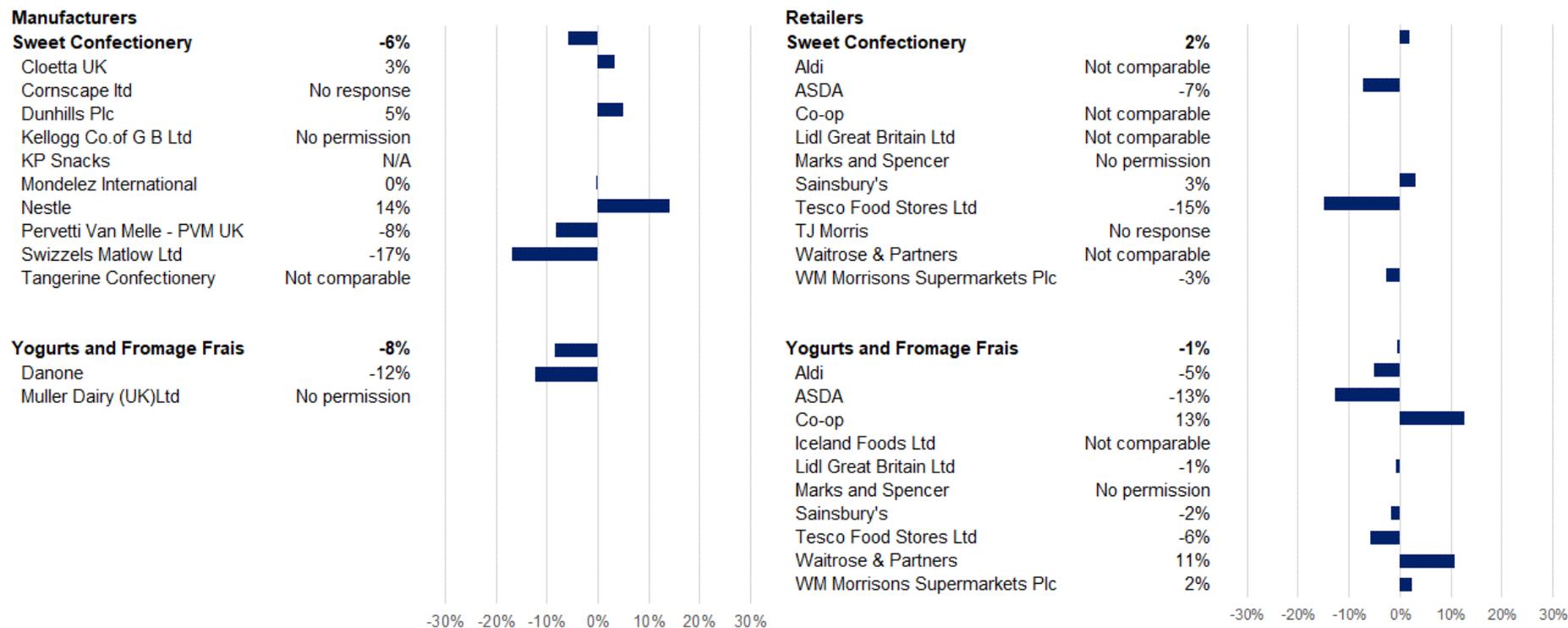
## Sugar reduction: Report on progress between 2015 and 2018



**Note:**

1. The baseline year for cakes and morning goods is 2017 rather than 2015. The list of businesses for cakes and morning goods is a combined list of manufacturers and retailers.
2. Manufacturers and retailers are listed in alphabetical order within each category. They are not listed by volume of servings. The list includes those who account for the top 80% of servings. For manufacturers, any businesses which did not have at least 1% of servings in 2015 and 2018 were removed.

## Sugar reduction: Report on progress between 2015 and 2018



### Note:

1. The baseline year for cakes and morning goods is 2017 rather than 2015. The list of businesses for cakes and morning goods is a combined list of manufacturers and retailers.
2. Manufacturers and retailers are listed in alphabetical order within each category. They are not listed by volume of servings. The list includes those who account for the top 80% of servings. For manufacturers, any businesses which did not have at least 1% of servings in 2015 and 2018 were removed.

## Volume of sales for retailer own brand and manufacturer branded products

This section looks at the volume of sales for the categories included in the sugar reduction programme, and how this has changed between the baseline (2015) and year 2 (2018) for retailer own brand and manufacturer branded products.

While it was stated earlier in this report that the data for cakes and morning goods in 2017 was replicated for 2015 so progress could be measured against the 2015 baseline for all categories, this was not done for total sales of sugar and total volume of sales. This is because substantially more products were captured for cakes and morning goods in 2018 than 2017 and therefore sales will be higher in 2018 simply because sales for more products were included in the analysis (see Appendix Table 1 for the number of products).

Therefore, the sales figures quoted in this section are underestimates of the total amount of sugar purchased as cakes and morning goods are excluded.

The section is split into 2 parts:

1. Total sales of sugar – this analysis looks at the volume of sugar being purchased and how this has changed over time
2. Total volume sales – this analysis looks at the volume of products being purchased

It is important to look at how total volume sales for each product and category vary over time as the product level sales are being used to weight the contribution of each product in the sales weighted average calculation. Therefore, if the sales of higher sugar content products increase relative to lower sugar content products then this can lead to an increase in the sales weighted average, even if some of those higher sugar products have been reformulated to decrease their sugar content. In other words, increases in sales of some of the higher sugar categories and/or decreases in lower sugar categories can neutralise any reformulation work overall, as the average product purchased will have a higher average sugar content.

## Total sales of sugar

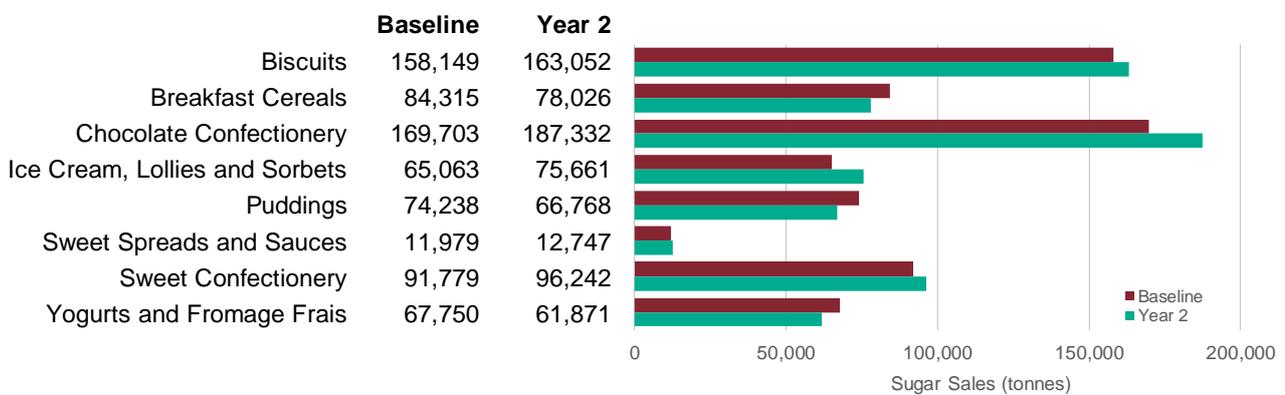
Figure 14 shows the sales in tonnes of sugar sold by category (excluding cakes and morning goods) for baseline and year 2 and Figure 15 shows how this has changed over time.

For retailers and manufacturers, they show that:

- overall there has been an increase from 722,976 tonnes of sugar sold at baseline to 741,700 tonnes in year 2 which represents an increase of 2.6% (the overall sugar sales is not on Figure 14 but the increase is shown in Figure 15)

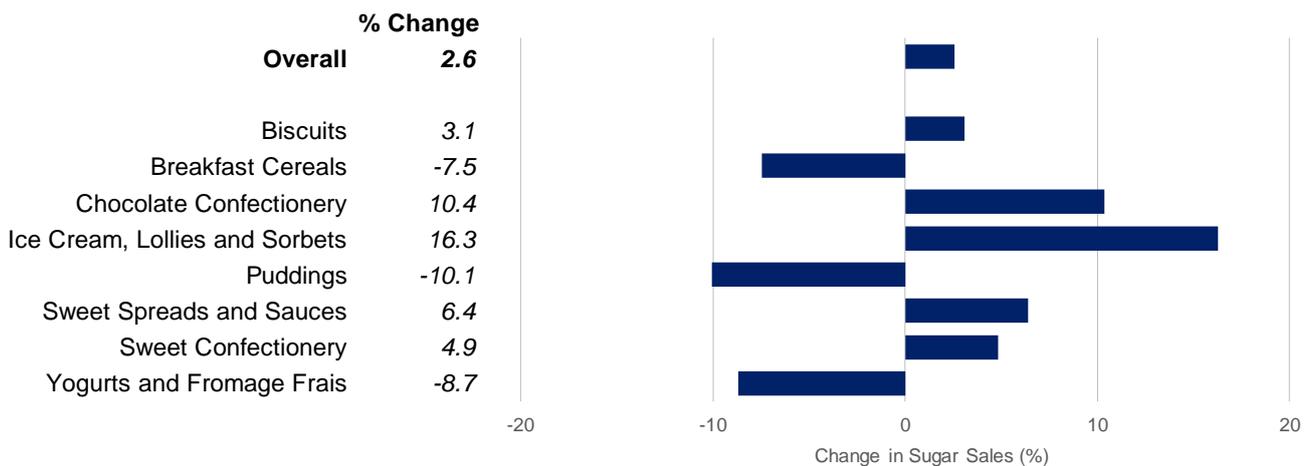
- as the population of Great Britain increased during this period the increase in sugar represents a 0.5% increase in sugar purchased per person from product categories included in the programme
- the largest increases in tonnes of sugar sold were 16.3% for ice cream, lollies and sorbets, 10.4% for chocolate confectionery, 6.4% for sweet spreads and sauces, 4.9% for sweet confectionery and 3.1% for biscuits
- the largest decreases were 10.1% for puddings, 8.7% for yogurts and fromage frais and 7.5% for breakfast cereals (Table 5)

**Figure 14: Sales of sugar by category in baseline (2015) and year 2 (2018) for retailer own brand and manufacturer branded products**



Note: Cakes and morning goods are excluded from this chart. This is because there are around 50% more products in the 2018 dataset compared to 2017 so a comparison of sales would show a large increase which would be due to an increase in data quality rather than an increase in sales.

**Figure 15: Percentage change in sales of sugar by category between baseline (2015) and year 2 (2018) for retailer own brand and manufacturer branded products**



Note: Cakes and morning goods are excluded from this chart. This is because there are around 50% more products in the 2018 dataset compared to 2017 so a comparison of sales would show a large increase which would be due to an increase in data quality rather than an increase in sales.

### Total volume sales

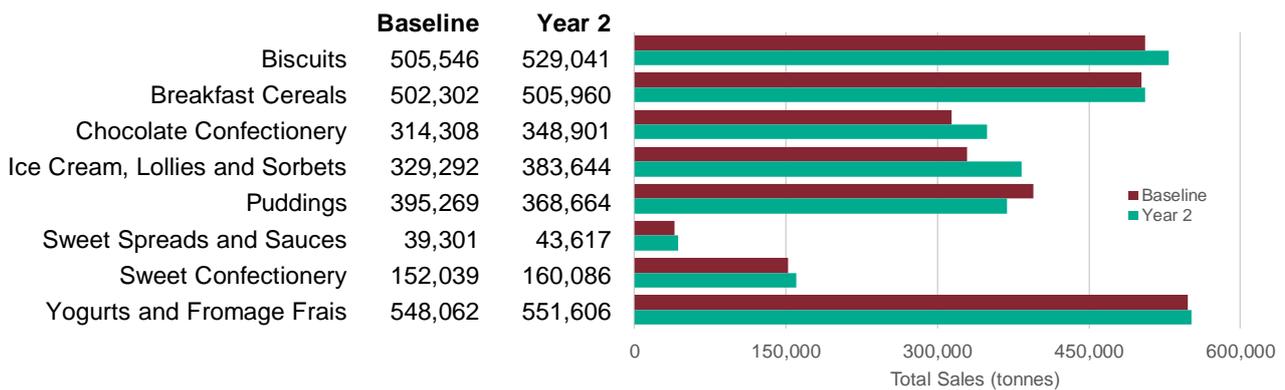
This section looks at the total volume of sales in the same categories (excluding cakes and morning goods). It firstly looks at the actual level of sales, and then it analyses the proportion of sales each category contributes to the overall total as this indicates the contribution each category is making to the overall sales weighted average<sup>16</sup>.

Figure 16 shows the total volume sales by category for baseline and year 2 and Figure 17 shows how this has changed over time.

For retailers and manufacturers, they show that:

- overall there has been an increase from 2,786,118 tonnes of products sold at baseline to 2,891,519 tonnes in year 2 which represents an increase of 3.8% (the overall total sales are not on figure 16 but the increase is shown in figure 17)
- as the population of Great Britain increased during this period the increase in products sold represents a 1.7% increase in products purchased per person from product categories included in the programme
- the only category where sales decreased was puddings (down 6.7%)
- the largest increase was for ice cream, lollies and sorbets (up 16.5%), whilst chocolate confectionery and sweet spreads and sauces also had large increases (both up 11.0%) (Table 5)

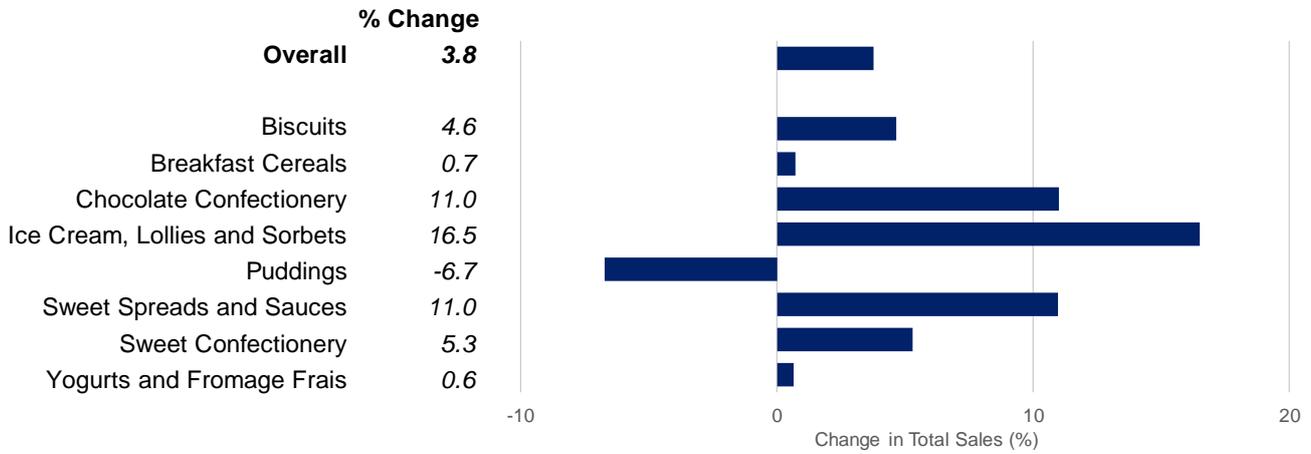
**Figure 16: Total volume sales by category in baseline (2015) and year 2 (2018) for retailer own brand and manufacturer branded products**



Note: Cakes and morning goods are excluded from this chart. This is because there are around 50% more products in the 2018 dataset compared to 2017 so a comparison of sales would show a large increase which would be due to an increase in data quality rather than an increase in sales.

<sup>16</sup> The sugar content of each product is weighted according to its total sales in the calculation of the sales weighted average. Therefore, looking at how the proportion of sales each category contributes to the total and how this has changed between baseline and year 2 is a good proxy for seeing how the contribution of high and low sugar products will have changed over time.

**Figure 17: Percentage change in total volume sales by category between baseline (2015) and year 2 (2018) for retailer own brand and manufacturer branded products**



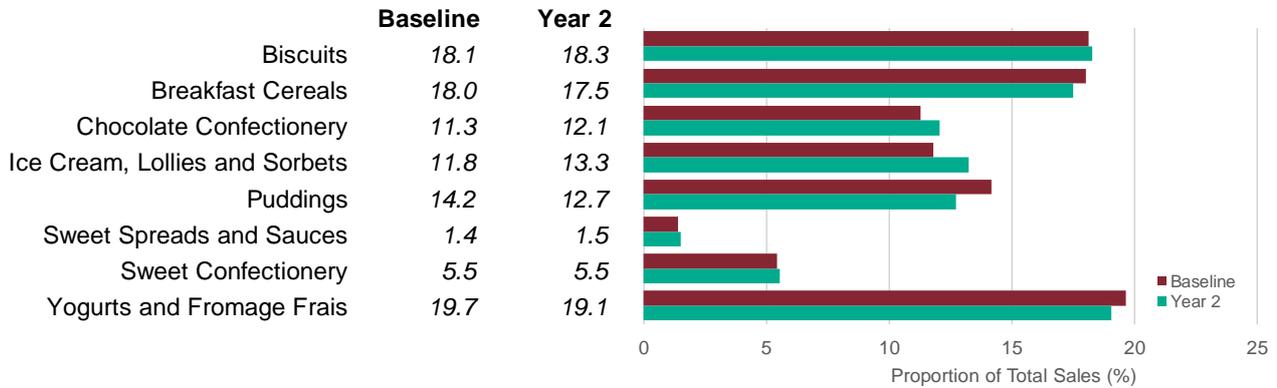
Note: Cakes and morning goods are excluded from this chart. This is because there are around 50% more products in the 2018 dataset compared to 2017 so a comparison of sales would show a large increase which would be due to an increase in data quality rather than an increase in sales.

Figure 18 shows the proportion of sales each category contributes to overall total volume sales and Figure 19 shows how this has changed over time.

For retailers and manufacturers, they show that in 2018:

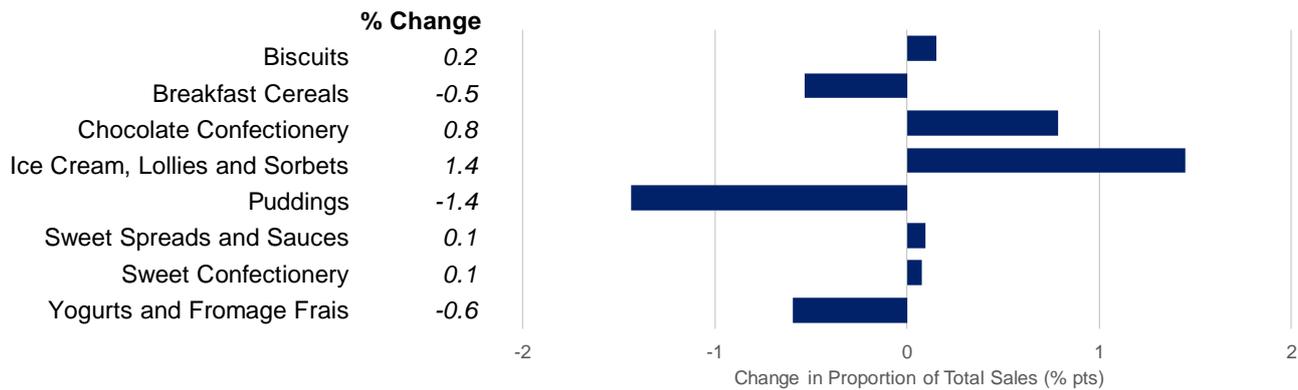
- yogurts and fromage frais (19.1%), biscuits (18.3%) and breakfast cereals (17.5%) account for over half the sales from the 8 categories shown
- by contrast, sweet spreads and sauces account for only 1.5% of sales
- the proportion of sales accounted for by yogurts and fromage frais and breakfast cereals has fallen by 0.6 percentage points and 0.5 percentage points respectively, meaning that although these categories had large reductions in their total sugar sales weighted average g/100g, the impact of this improvement on the overall sugar reduction (across all categories) will have been diluted as their proportion of sales has reduced
- the proportion of sales accounted for by chocolate confectionery has increased by 0.8 percentage points which will increase the overall sales weighted average (across all categories) as it is 1 of the categories with the highest sugar content (Table 5)

**Figure 18: Percentage of total volume sales by category in baseline (2015) and year 2 (2018) for retailer own brand and manufacturer branded products**



Note: Cakes and morning goods are excluded from this chart. This is because there are around 50% more products in the 2018 dataset compared to 2017 so a comparison of sales would show a large increase which would be due to an increase in data quality rather than an increase in sales.

**Figure 19: Percentage point change in the proportion of total volume sales by category between baseline (2015) and year 2 (2018) for retailer own brand and manufacturer branded products**



Note: Cakes and morning goods are excluded from this chart. This is because there are around 50% more products in the 2018 dataset compared to 2017 so a comparison of sales would show a large increase which would be due to an increase in data quality rather than an increase in sales.

## Out of home sector

This section focuses on progress made by businesses operating in the out of home sector. The term ‘out of home’ covers businesses such as:

- quick service restaurants
- casual dining restaurants
- contract caterers (foodservice)
- cafés and coffee shops
- sandwich and bakery led shops
- pubs
- vending

- retail food on the go
- takeaway and delivery services<sup>17</sup>

The previous sections on the in-home sector referred to products being purchased rather than consumed. This was because not all products purchased for consumption at home will actually be consumed. The data used in this out of home sector analysis is also based on purchases, but it is referred to as products being consumed out of home as they are usually being purchased for immediate or same day consumption.

Due to limitations in the data, simple averages are the sole metric used to assess progress in this sector. More information is given in the methodology (Appendix 2) but in summary, it is not possible to link purchases and nutrition data in the out of home sector with the same level of accuracy as the in-home sector.

Simple averages for each category in the out of home sector are presented in this section along with a comparison with the simple averages for retailers and manufacturers operating in the in-home sector as presented earlier.

### Quality of data

There are fewer products in the out of home dataset (1,707 in 2018 with data for sugar per 100g and 2,524 with data for calories per portion) compared with the in-home dataset for retailers and manufacturers (14,431 in 2018). In the commentary which follows, large changes based on a small number of products are mentioned as potentially not being robust. In addition, some very large changes which were based on quite different sets of products in each year have been removed as the products were not considered comparable between the 2 years.

Data for contract caterers is presented separately in this section. This is because those companies operating in educational establishments and some workplaces may be operating within a framework of what they can offer for sale, and therefore it is not sensible to compare them to other businesses who are not working within these restrictions.

### Time periods covered

No data is available for the baseline period of 2015, so comparisons are made between year 1 (2017) and year 2 (2018). This is primarily due to a change in data provider between 2015 and 2017 and more detail is given in the year 1 report<sup>xiii</sup>. Therefore year 1 is the baseline year for the analysis in this report for the out of home sector.

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<sup>17</sup> Very few purchases of takeaways and delivery services are included in this report as the data source used for out of home only captures purchases which are not eaten at home.

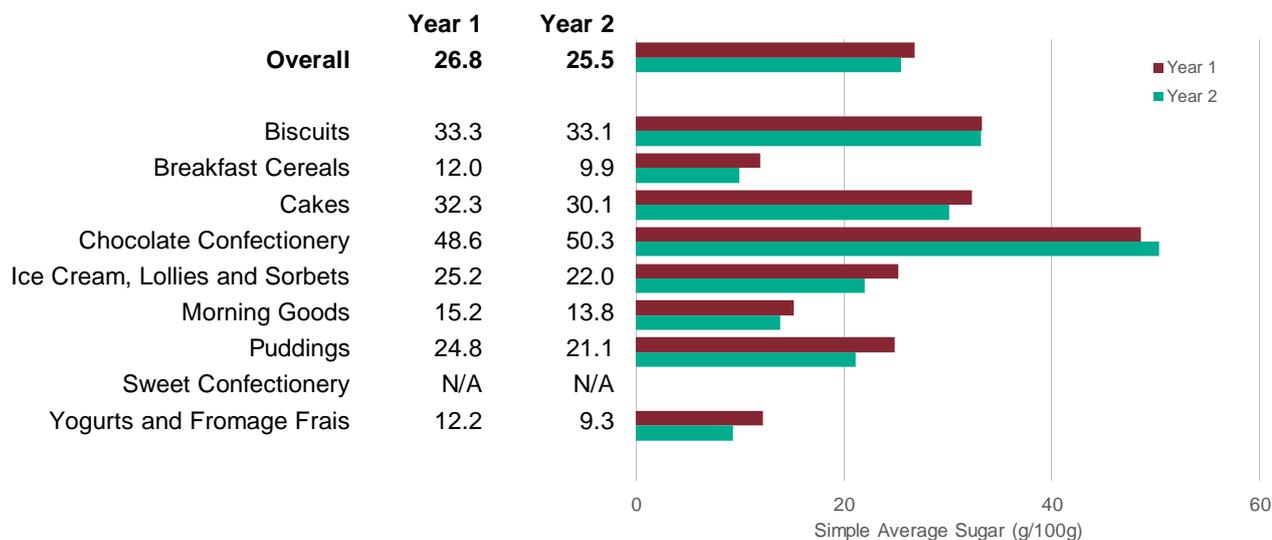
### Simple average total sugar per 100g for products consumed out of home

Figures 20 and 21 show the simple average at category level and overall for year 1 (2017 – baseline year for the analysis for this sector) and year 2 (2018) and the change during this period.

For businesses in the out of home sector:

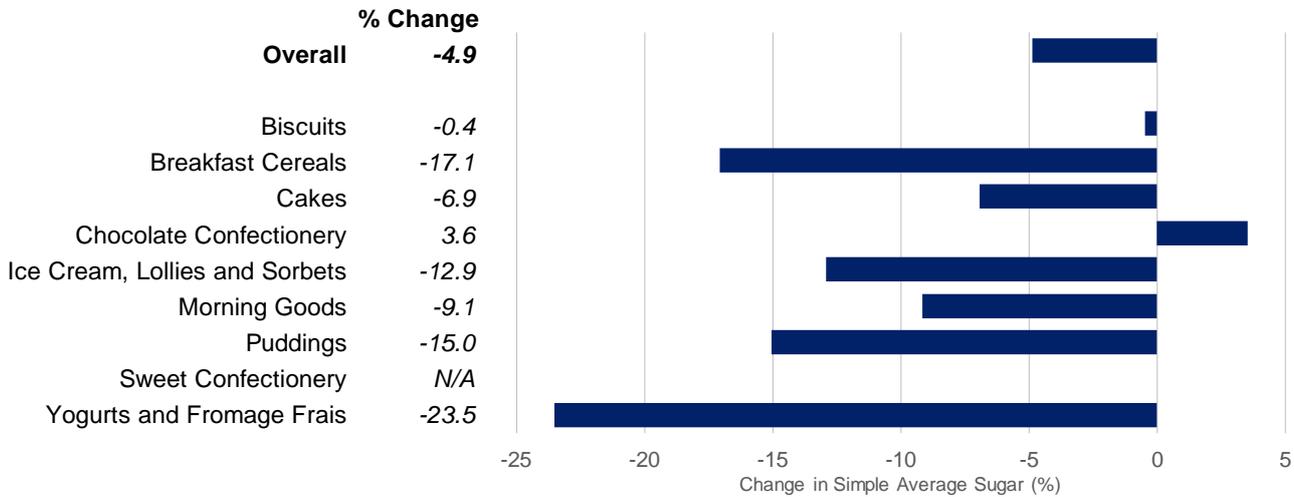
- overall there has been a reduction in the simple average sugar content from 26.8g/100g in 2017 to 25.5g/100g in 2018 which is a fall of 4.9%
- the largest decreases were 23.5% for yogurts and fromage frais, 17.1% for breakfast cereals, 15.0% for puddings, 12.9% for ice creams, lollies and sorbets, 9.1% for morning goods and 6.9% for cakes (note the analysis for yogurts and fromage frais is only based on 54 products in 2017 and 38 products in 2018, and therefore should be treated with caution)
- there was an increase for chocolate confectionery of 3.6% (Table 8)

**Figure 20: Simple average total sugar (g/100g) by category for year 1 (2017) and year 2 (2018) for products consumed out of home**



Note: Data for sweet confectionery has been excluded as the businesses providing data for 2018 were quite different to those providing data in 2017 so comparisons were not reliable. It is also excluded from the "Overall" row as it was found to be distorting the comparison.

**Figure 21: Percentage change in simple average total sugar (g/100g) by category between year 1 (2017) and year 2 (2018) for products consumed out of home**



Note: Data for sweet confectionery has been excluded as the businesses providing data for 2018 were quite different to those providing data in 2017 so comparisons were not reliable. It is also excluded from the "Overall" row as it was found to be distorting the comparison.

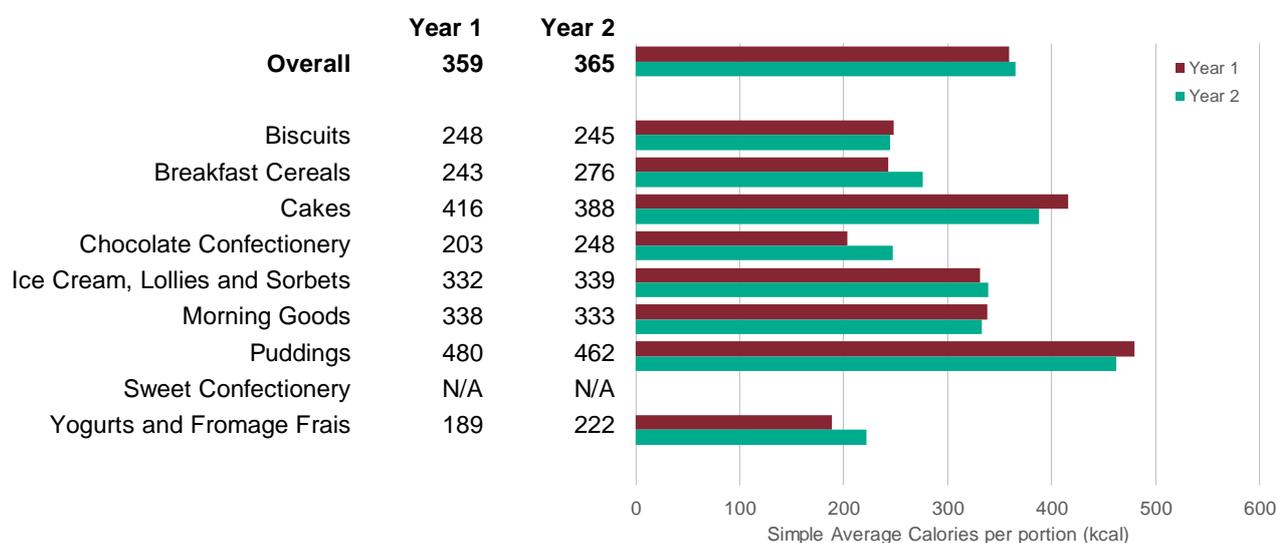
### Simple average calories in products likely to be consumed on a single occasion (single serve) out of home

Figures 22 and 23 show the simple average calorie content of products likely to be consumed on a single occasion at category level and overall for year 1 (2017) and year 2 (2018), and the change during this period.

They show that:

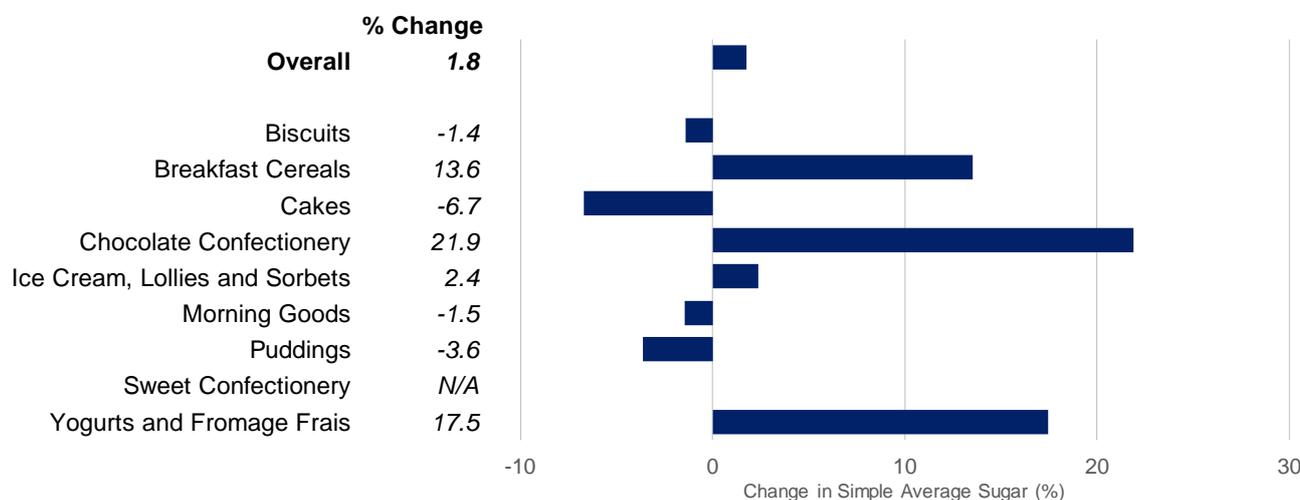
- overall there has been an increase in average calories per portion from 359 kcals in 2017 to 365 kcals in 2018 which represents an increase of 1.8%
- chocolate confectionery (up 21.9%), yogurts and fromage frais (up 17.5%), and breakfast cereals (up 13.6%) had the largest increases in calories per portion
- cakes (down 6.7%) had the largest decrease followed by puddings (down 3.6%)
- other categories had smaller changes (Table 9)

**Figure 22: Simple average calories (kcal) for products likely to be consumed on a single occasion by category for year 1 (2017) and year 2 (2018) for products consumed out of home**



Note: Data for sweet confectionery has been excluded as the businesses providing data for 2018 were quite different to those providing data in 2017 so comparisons were not reliable. It is also excluded from the "Overall" row as it was found to be distorting the comparison.

**Figure 23: Percentage change in simple average calories for products likely to be consumed on a single occasion by category between year 1 (2017) and year 2 (2018) for products consumed out of home**



Note: Data for sweet confectionery has been excluded as the businesses providing data for 2018 were quite different to those providing data in 2017 so comparisons were not reliable. It is also excluded from the "Overall" row as it was found to be distorting the comparison.

### Differences between out of home and retailers and manufacturers in the in-home sectors

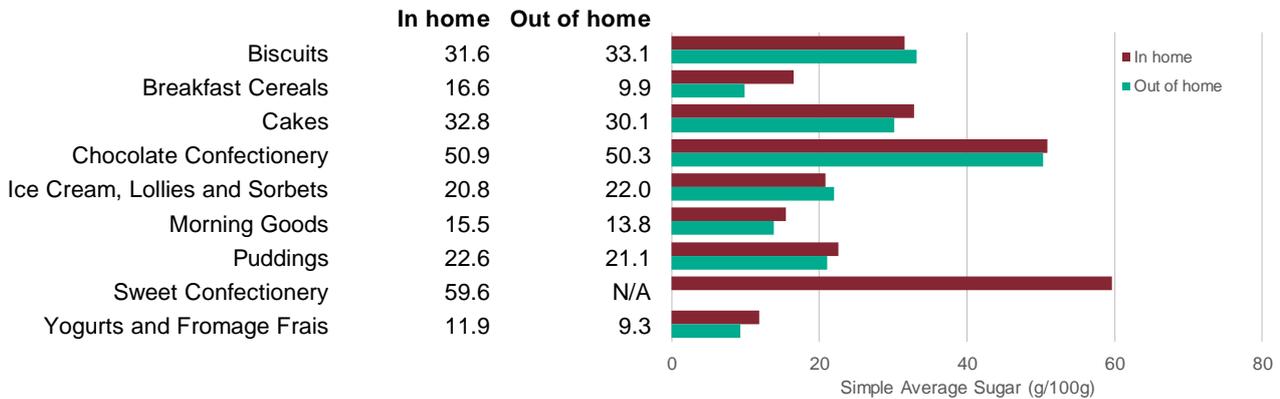
This section compares the simple average sugar content in the out of home sector with products sold through retailers and manufacturers for consumption in home which were shown earlier in this report. **Only simple averages should be used when comparing across the in home and out of home sectors as sales weighted averages are not**

available for the out of home sector due to the difficulty of linking sales and nutrition information as mentioned previously. The simple average total sugar per 100g (figure 24) and the simple average number of calories in products likely to be consumed on a single occasion (figure 25) are shown for each sector.

It can be seen that:

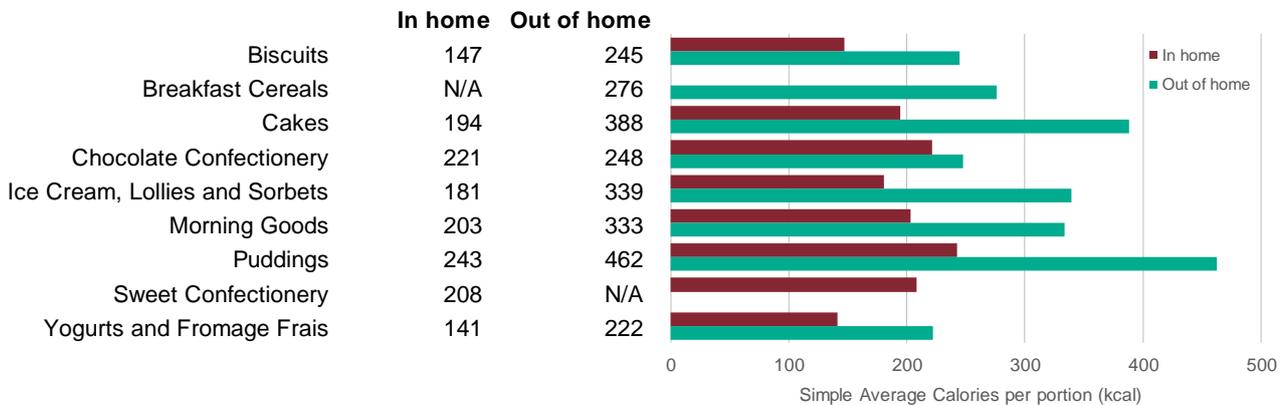
- for most categories, the simple average sugar content per 100g in products consumed out of home is roughly the same as the simple average for retailer own brand and manufacturer branded products consumed in home
- calories in products likely to be consumed on a single occasion out of home are higher across all categories (Tables 1, 3, 8 and 9)

**Figure 24: Simple average total sugar per 100g by category in year 2 (2018) for the out of home and in-home sectors**



Note: Data for sweet confectionery has been excluded for out of home as the businesses providing data for 2018 were quite different to those providing data in 2017 so comparisons were not reliable.

**Figure 25: Simple average calories per single serve portion by category in year 2 (2018) for the out of home and in-home sectors**

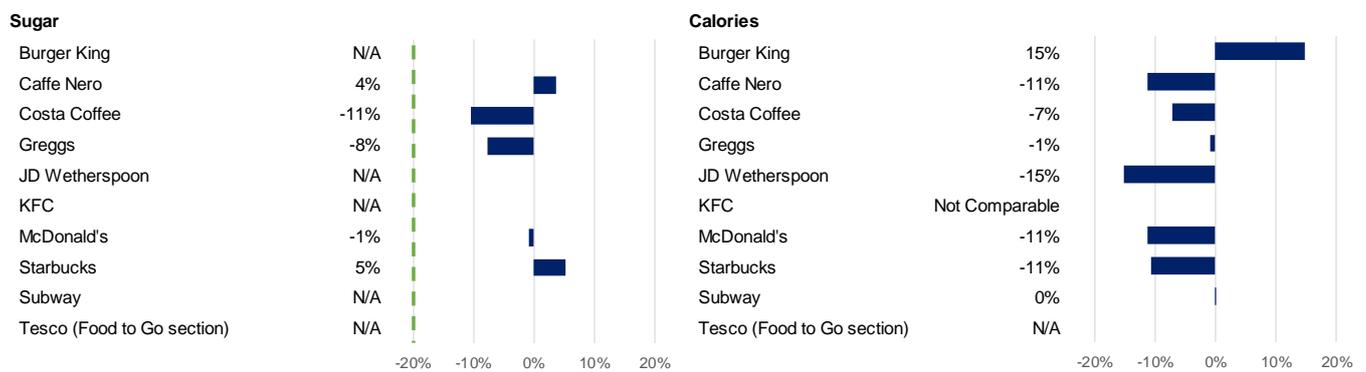


Note: Data for sweet confectionery has been excluded for out of home as the businesses providing data for 2018 were quite different to those providing data in 2017 so comparisons were not reliable.

### Progress at business level

Figure 26 shows a comparison between year 1 (2017) and year 2 (2018) for the simple average total sugar g/100g at business level and calories in products likely to be consumed on a single occasion. The green dotted line shows the 20% reduction guideline for 2020 and it can be seen that no businesses have reached this guideline so far, and some have shown increases. (Appendix Table 6)

**Figure 26: Changes in simple average total sugar per 100g and calories for products likely to be consumed on a single occasion by brand between year 1 (2017) and year 2 (2018)**



### Contract caterers

The simple average total sugar content for products from catering companies was 21.5g/100g in 2018 and the simple average calories in products likely to be consumed on a single occasion was 342 kcals (Table 11).

It is not possible to compare these figures to 2017 as there are around half as many products in the 2018 dataset which would mean the comparison would not be made on a like-for-like basis (see table 11 for the number of products).

### Soft Drinks Industry Levy

#### Introduction

The Soft Drinks Industry Levy (SDIL) was announced in the 2016 Budget in March 2016<sup>xiv</sup> and was introduced in April 2018<sup>xv</sup>. It applies to sugar sweetened beverages containing added sugar and was introduced as part of the government’s initiative to tackle childhood obesity by encouraging manufacturers and retailers to reduce the sugar content in their drinks products.

There are two rates of tax, depending on the sugar content:

- the 'standard rate' (18p per litre) applies to drinks with total sugar content between 5g and up to (but not including) 8g per 100ml
- the 'higher rate' (24p per litre) applies to drinks with total sugar content equal to or greater than 8g per 100ml

There is no tax applied to drinks with sugar content of less than 5g per 100ml.

All drinks subject to the SDIL, including those with a sugar content of less than 5g per 100ml, are included in the analysis in this section. It is important to include this low sugar group of drinks so that consumers switching from higher sugar drinks and any reformulation of products can be monitored.

Juice and milk-based drinks are not in scope of the SDIL and have been excluded from this analysis. As detailed in the Childhood Obesity Plan chapter 2<sup>xvi</sup> and the prevention green paper 'Advancing our health: prevention in the 2020's – consultation document'<sup>xvii</sup>, HM Treasury will review the continuation of milk-based drinks exemption from the SDIL in 2020.

### Retailers and manufacturers

Figure 27 shows the sales in litres of products subject to the SDIL for the baseline year (2015) and year 2 (2018) for retailer own brand and manufacturer branded products, and figure 28 shows the proportion of these sales by the different levy rates.

It can be seen that:

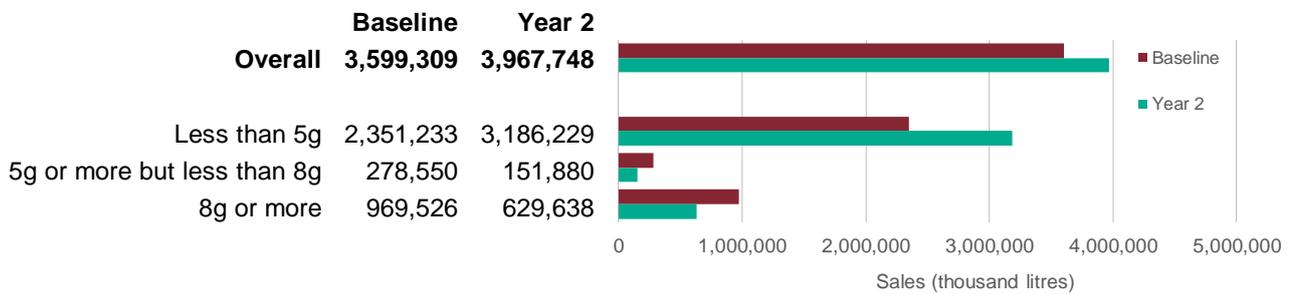
- overall, sales (in litres) of soft drinks classified within the three sugar tiers of the levy have increased by 10.2% from 3,599,309 thousand litres in 2015 to 3,967,748 in 2018 which was due to an increase in sales of drinks containing less than 5g of sugar per 100ml<sup>18</sup>
- at the same time the total sugar content within the soft drinks sold decreased by 21.6% from 139,718 tonnes in 2015 to 109,585 tonnes in 2018 which means that on average, the sugar content of drinks subject to the SDIL has decreased
- the sales weighted average total sugar content fell from 3.9g per 100ml in 2015 to 2.8g per 100ml, in 2018 which is a decrease of 28.8%
- the sales weighted average number of calories for products likely to be consumed on a single occasion fell from 64 kcals per single serve to 51 kcals which is a fall of 20.5%

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<sup>18</sup> Drinks containing less than 5g of sugar per 100ml are subject to the SDIL but no tax is applied as their sugar content is below the taxation threshold.

- there has been a large shift in sales towards lower sugar products as sales (in litres) of products with no levy attached (less than 5g sugar per 100ml) have increased by 35.5%, while sales of products with a levy attached have fallen by 45.5% for those in the 5g to less than 8g per 100ml group and by 35.1% for those in the 8g or more per 100ml group
- the proportion of sales with no levy attached has also increased from 65% to 80% while the proportion of products with no levy attached has also increased from 48% to 67% (Table 7)

**Figure 27: Sales (thousand litres) of drinks subject to the Soft Drinks Industry Levy by total sugar content per 100ml in baseline (2015) and year 2 (2018) for retailer own brand and manufacturer branded products**



**Figure 28: Proportion of sales of drinks subject to the Soft Drinks Industry Levy by total sugar content per 100ml in baseline (2015) and year 2 (2018) for retailer own brand and manufacturer branded products**

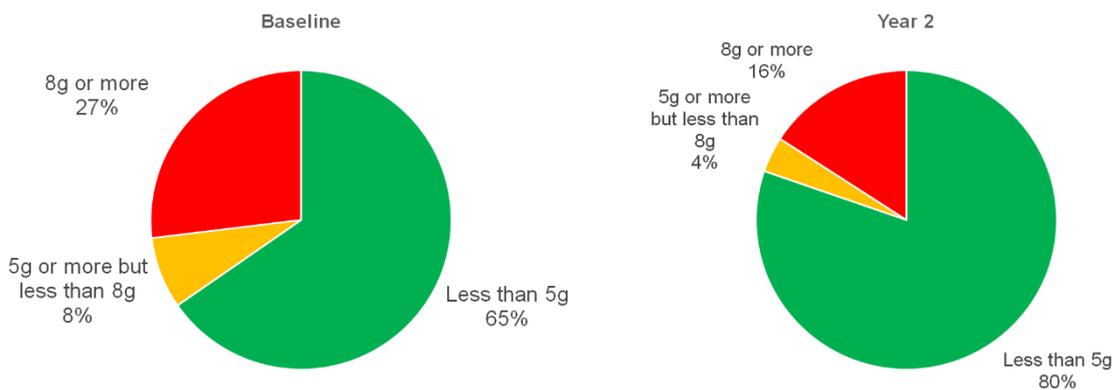
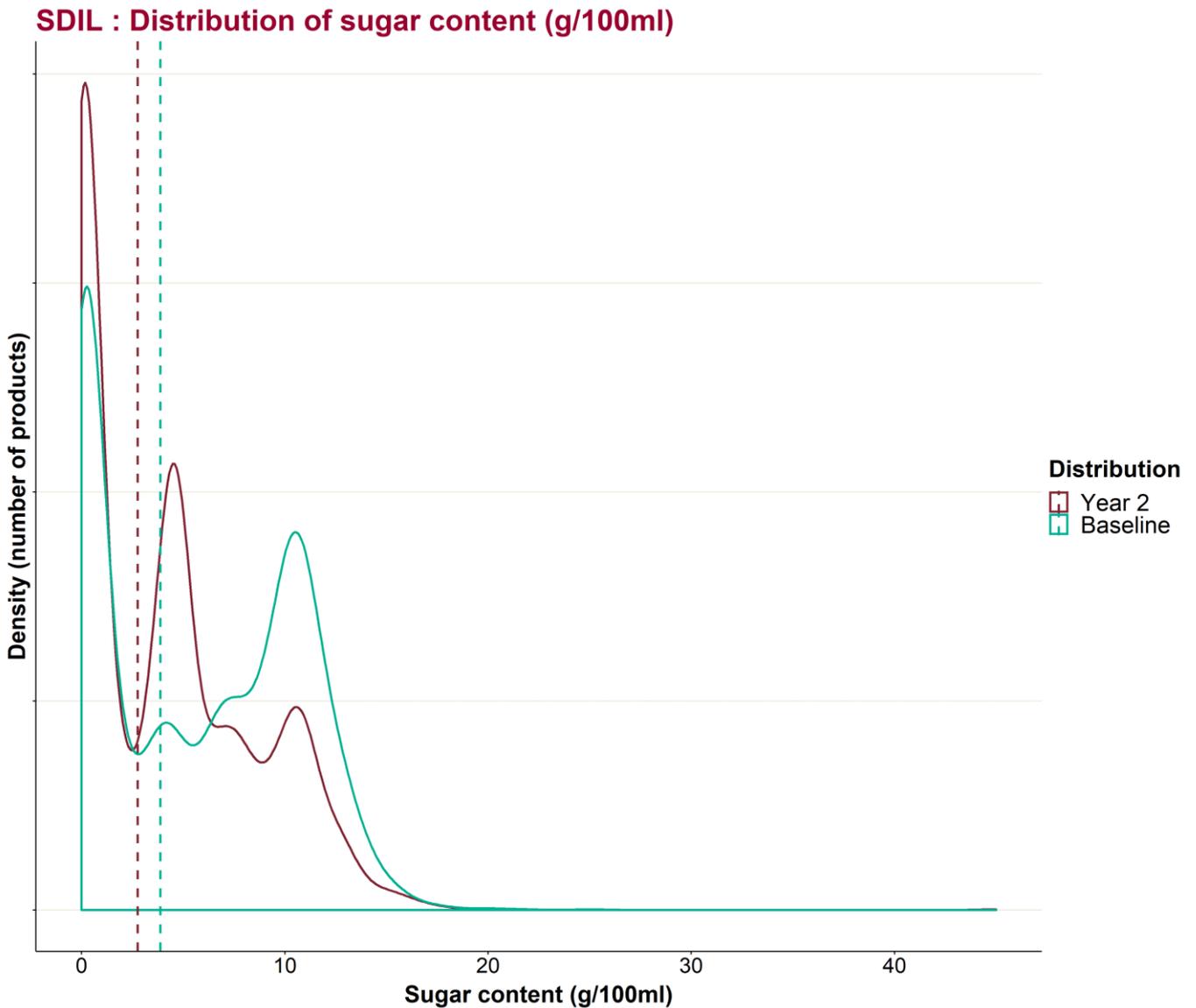


Figure 29 shows how the distribution of products purchased by their sugar content has changed over time. The curves show the number of products sold by their total sugar content in g/100ml for baseline (2015) and year 2 (2018), and the vertical lines show the sales weighted average sugar content for the same time periods.

The general shift in the distribution to the left between baseline and year 2 indicate that drinks being purchased are on average lower in total sugar g/100ml in year 2 than they were in the baseline year.

**Figure 29: Number of drinks subject to the Soft Drinks Industry Levy purchased by total sugar per 100ml for baseline (2015) and year 2 (2018) for retailer own brand and manufacturer branded products**



Note: The lines on this chart are a smoothed line of best fit through the underlying data points which allow the general direction of change to be seen clearly. Therefore, the number of products for a particular sugar content per 100ml is an approximation rather than the exact number. In particular, there are steeper drops than this line indicates close to the sugar content levels where the levy increases.

Figure 30 shows a comparison between baseline (2015) and year 2 (2018) for the sales weighted average total sugar g/100ml at business level for drinks subject to the SDIL. While there is no comparable reduction guideline for soft drinks as there is for categories in the sugar reduction programme, all the top brands (where figures are

available) have shown a decrease in their sales weighted average sugar content in g/100ml and several have reduced by more than 20%. (Appendix Table 2)

**Figure 30: Changes in sales weighted average total sugar per 100ml of drinks subject to the Soft Drinks Industry Levy by business between baseline (2015) and year 2 (2018) for retailers and manufacturers**



Note: The overall percentage change is a combined figure for manufacturers and retailers.  
 Note: Cott Beverages Ltd are now owned by Refresco Beverages UK Ltd. This is not reflected in the data above

### Out of home

Although data for the out of home sector are more limited, it is possible to look at changes in sugar and calories between 2017 and 2018 and the distribution of products and sales by the different sugar levy bands for drinks covered by the SDIL in the out of home sector. However, comparisons should be treated with caution as there are a different number of products analysed in each year.

The main findings are:

- the simple average total sugar content fell from 6.1g per 100ml in year 1 to 4.4g per 100ml in year 2 (down 27.2%)
- the simple average calorie content for products likely to be consumed on a single occasion fell from 99 kcals to 77 kcals which is a fall of 22.2%
- the equivalent year 2 simple averages for retailer own brand and manufacturer branded products are 4.3g per 100ml, and 75 kcals for products likely to be consumed on a single occasion. (Table 10 and 7)

Unfortunately, it is not possible to compare the level of sales (expressed as servings) in the out of home sector between 2017 and 2018 as they are based on a different number of products; 256 in 2017 and 430 in 2018. Therefore, the increase in the number of servings would be due to additional data being collected rather than a real increase in servings.

## Retailers and manufacturers – analysis by socio-economic group

This section looks at changes in the sales of products subject to the Soft Drinks Industry Levy by socio-economic group of households for retailer own brand and manufacturer branded products. The groups considered are:

- A: higher managerial, administrative and professional workers
- B: intermediate managerial, administrative and professional workers
- C1: supervisory, clerical and junior managerial, administrative and professional workers
- C2: skilled manual workers
- D: semi-skilled and unskilled manual workers
- E: people on long term state benefits, casual and lowest grade workers, unemployed with state benefits only

The Kantar data assigns each household to a group based on the head of the household and groups A and B are joined together in the dataset.

Group E is quite different to the other groups in terms of the number of people in the household and the age of the main shopper, and made up only 12.3% of households in 2018. In the year 2 dataset, 48% of the main shoppers in group E were retired compared with 28% for the dataset as a whole. Group E had more single person households (57%) compared with 31% for all the groups combined, and fewer families<sup>19</sup> (11% of the households in the group) compared with 27% for all the groups combined.

The analyses presented here do not take into account differences in household structure and how this may be influencing the findings seen by socio-economic group. In addition, the analyses do not consider price changes and how these could affect the results seen. For these reasons, conclusions cannot be drawn on the independent effects of the SDIL on different socio-economic groups.

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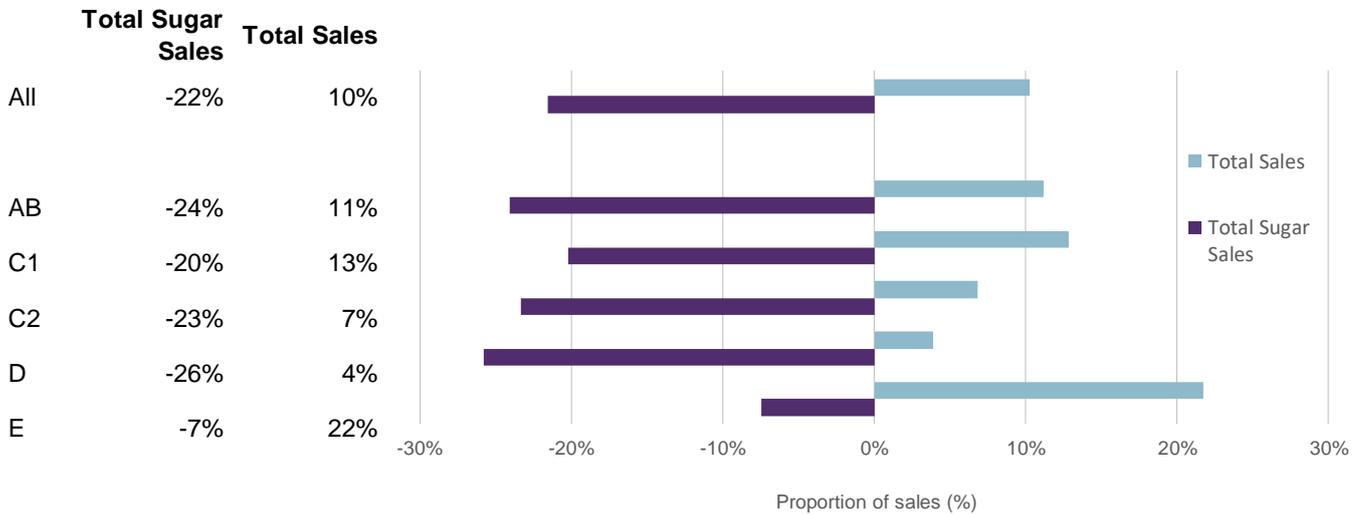
<sup>19</sup> A family is defined as a household containing children aged below 17 years old.

Figure 31 shows the percentage change in total volume sales of drinks that are subject to the Soft Drinks Industry Levy by socio-economic group, and the change in the total sugar within those drinks between baseline (2015) and year 2 (2018). Figure 32 shows the total purchases of drinks subject to the Soft Drinks Industry Levy per household, and the total sugar purchased from these drinks per household, by socio-economic group.

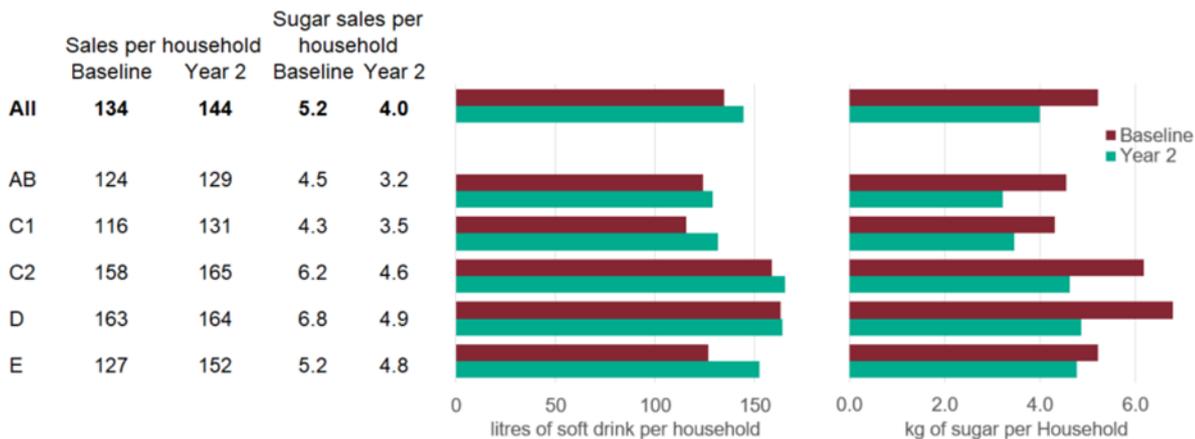
It shows that:

- overall, there has been an increase of 10% in sales of all soft drinks included in the SDIL analysis, but a reduction in the total sugar sales from those drinks of 22%, reflecting the shift in sales towards lower sugar drinks
- all groups have shown an increase in volume of drinks purchased and a reduction in sugar purchased but there are some differences by socio-economic group
- the largest increase in purchases was for group E (up 22%), which partly explains why it had a smaller decrease in sugar than the other groups (down 7%)
- groups AB, C1 and C2, which contain over three-quarters of the families in the dataset, had increases in total sales of 11%, 13% and 7% respectively, and their decreases in total sugar purchased were 24%, 20% and 23% respectively
- there has been an increase in the total drinks purchased per household, and a reduction in the total sugar purchased per household in all socio-economic groups, however, households in group E had the lowest reduction of all groups (9% compared with 24% overall)
- in group E, sugar purchases per household in the baseline year were lower than group C2 and D and this smaller reduction results in the level being similar to these groups in year 2 (Table 7)

**Figure 31: Change in total volume sales (litres) of drinks subject to the Soft Drinks Industry Levy and change in total sugar content of those drinks by socio-economic group between baseline year (2015) and year 2 (2018) for retailer own brand and manufacturer branded products**



**Figure 32: Total volume sales (litres) of drinks subject to the Soft Drinks Industry Levy and change in total sugar sales from those drinks by socio-economic group between baseline year (2015) and year 2 (2018), for retailer own brand and manufacturer branded products**

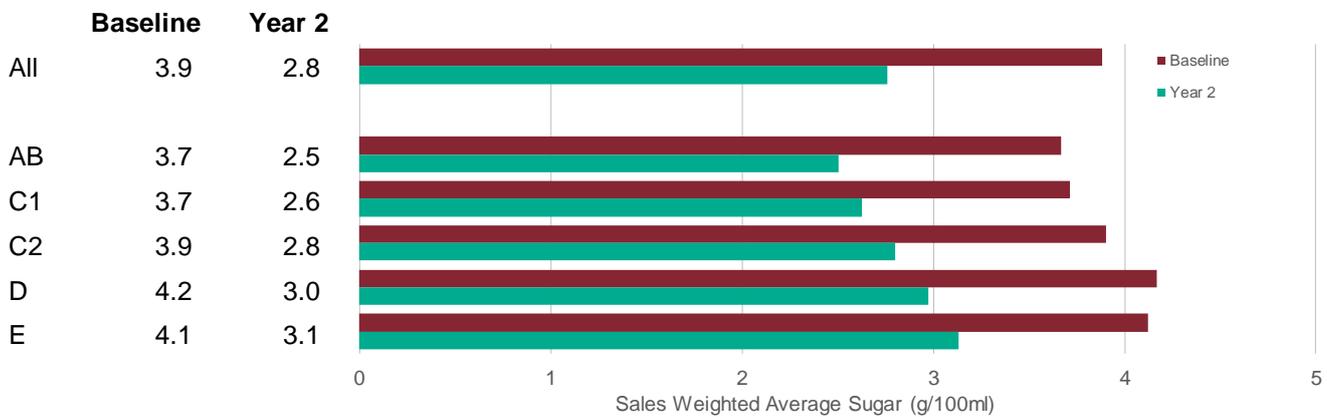


Figures 33 and 34 show the sales weighted average total sugar content per 100g both overall, and at product category level, for baseline (2015) and year 2 (2018) and the change between this period.

It can be seen for retailers and manufacturers that:

- in both baseline and year 2, the drinks purchased by those in the lower socio-economic groups had a higher average sugar content than the drinks purchased by those in the higher socio-economic groups
- all socio-economic groups have shown a reduction in SWA total sugar content per 100ml but there are some differences by socio economic group as group E had a lower reduction (24%) than the other groups (28 to 32%) (Table 7)

**Figure 33: Sales weighted average total sugar (g/100ml) of drinks subject to the Soft Drinks Industry Levy by socio-economic group in baseline year (2015) and year 2 (2018) for retailer own brand and manufacturer branded products**



**Figure 34: Percentage change in sales weighted average total sugar (g/100g) of drinks subject to the Soft Drinks Industry Levy by socio-economic group between baseline (2015) and year 2 (2018) for retailer own brand and manufacturer branded products**

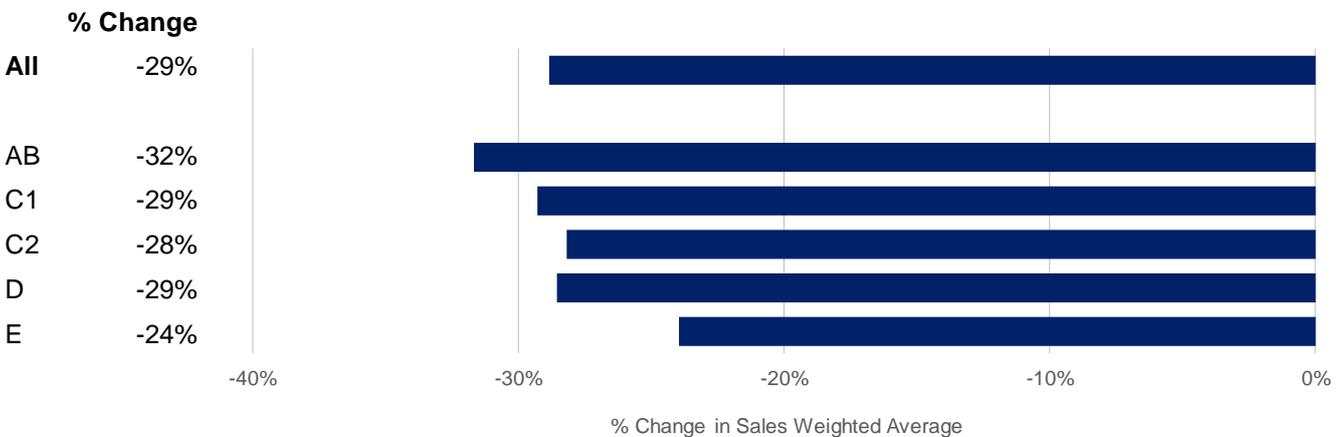
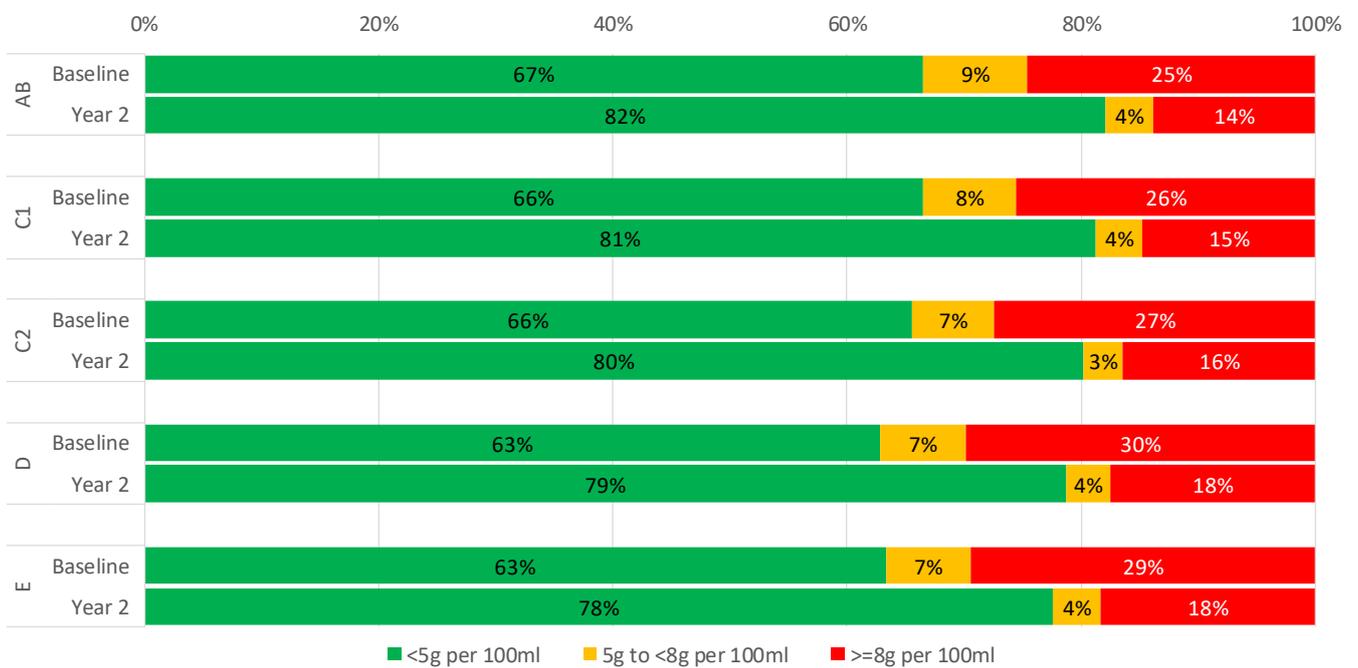


Figure 35 shows the sales in litres of products subject to the SDIL for the baseline year (2015) and year 2 (2018) for retailer own brand and manufacturer branded products by the different taxation levels.

It can be seen that:

- there has been an increase in the proportion of sales with no levy attached (<5g per 100ml) for all socio-economic groups
- the proportion of drinks purchased that have no levy attached is similar across the groups, but it is slightly lower in the lower socio-economic groups compared to the higher socio-economic groups (Table 7)

**Figure 35: Proportion of sales of drinks subject to the Soft Drinks Industry Levy by total sugar content per 100ml by socio-economic group in baseline (2015) and year 2 (2018) for retailer own brand and manufacturer branded products**



## Conclusions and next steps

The results presented in this report give an assessment of progress for the second year of the sugar reduction programme and build on the results published in year 1.

The sugar reductions seen for breakfast cereals and yogurts and fromage frais are not being fully realised due to changes in the proportion of total sales for the different products included in the sugar reduction programme. For example, the proportion of total sales from breakfast cereals and yogurts and fromage frais has decreased, while sales in higher sugar categories such as chocolate confectionery have seen a relative increase compared with other categories. Overall this shift and increase in sales means that where sugar is coming from in shopping baskets has changed but even if these shifting sales are adjusted for, it would not make much difference to the overall 2.9% reduction in the sales weighted average seen so far for retailers and manufacturers

For products purchased from the out of the home sector, the average sugar content is similar for most categories when compared with retailers and manufacturers. For the out of home sector it also appears that changes in the sugar levels are greater than for retailers or manufacturer own brand products (a reduction in the simple average of 4.9% compared with 0.2%). This observation, however, needs to be treated with caution as the significance of this cannot be tested as the data sets for the individual sectors of the food industry are too different, with that for the out of home sector being more limited than the relatively comprehensive data available for retailers and manufacturers. In addition, the calorie content of products likely to be consumed on a single occasion out of home are substantially higher than those purchased for consumption in-home and have increased between year 1 (2017) and year 2 (2018) by 1.8%.

The picture at brand and product level for retailers and manufacturers is also mixed. While some businesses are making progress, others are showing much less or no progress, and some brands are showing increases in their sales weighted average for both sugar and calorie content. Data also suggest that manufacturer own brand products have changed to a greater extent than retailer own brand products (a reduction of 3.3% compared to 1.5% in SWA of sugar per 100g).

Compared with the food categories in the sugar reduction programme, there has been a much larger decrease in sugar content in the combined group of drinks that are subject to the SDIL. It should be noted, however, that reducing sugar in drinks is more straightforward than it is for some food categories because sugar does not provide functionality beyond taste to drinks (that is, it does not often contribute to colour or structure).

The analysis of manufacturer and retailer own brand product purchases shows that, between 2015 and 2018, patterns of purchases of drinks subject to the SDIL have changed across all socio-economic groups. All groups purchased fewer high sugar drinks and more lower sugar drinks in 2018 than in 2015 for consumption in home. This change in the balance of drinks being purchased has resulted in less sugar being purchased from drinks subject to the SDIL by all groups.

From this analysis, conclusions cannot be drawn on the extent to which these changes are caused by the SDIL as this analysis does not take into account other factors or trends that could be important in determining patterns of drink purchases. However, it is apparent that the changes have been large as, for example, between 2015 and 2018 average sugar content in drinks subject to the SDIL has reduced by 28.8% per 100 ml and total sugar purchased from these drinks has reduced by 21.6%.

When looking at changes in purchases of drinks subject to the SDIL by socioeconomic groups, the analysis in this report shows that the reduction in total sugar purchased per household from drinks subject to the SDIL is similar for groups A to D (between 20 and 29% reduction) and lower for group E (9%). Although this reduction is smallest in the lowest socioeconomic group (group E), sugar purchases per household from drinks subject to the SDIL in the baseline year were lower in this group than group C2 and D and this smaller reduction results in group E being similar to these groups in 2018.

The SDIL analysis by socioeconomic status has not accounted for other factors that could be causing some of these differences, including price changes and other household characteristics. For example, only a small proportion (11%) of group E are families, and 57% are single person households. Although, there has been a reduction in sales of medium and high sugar products in group E, the increase in the sales of low sugar products was much greater than in other socio-economic groups. Further analysis is required to fully understand the changes seen.

This analysis by socio-economic group broadly fits with time trend analysis from the National Diet and Nutrition Survey (NDNS) which shows a downward trend in children's consumption of sugar-sweetened soft drinks between 2008/09 and 2016/17. Changes for adults are in the same direction but less marked.

Although consumption patterns have not been assessed in this report (only purchases), if the findings translate into reduced sugar consumption from drinks, other dietary components remain unchanged and these trends are sustained over time, then all socio-economic groups are likely to accrue the health benefits linked to lower levels of sugar in the diet<sup>vii</sup>.

There are a number of limitations to the data and analysis presented in this report. We are unable to test the statistical significance of the changes over time which means that

some of the changes or differences between food categories could have occurred by chance.

For the out of home sector, it is not possible to produce the sales weighted average sugar content of products in g/100g. This is due to problems linking sales and nutrition data. Therefore simple averages have been used, but these have the disadvantage of not taking into account the volume of sales of the product which means that low selling products are given the same weight as high selling products. Also, there may be bias as nutrition information is not available for some outlets.

The baseline used for the in-home sector is 2015. However, only a small amount of data was collected for cakes and morning goods in 2015 so progress for these categories is being compared with a baseline year of 2017. Analysis of the out of home sector also uses a 2017 baseline as individual business level data was unavailable before this.

### Monitoring of sugar reformulation programme using other data sources

Changes in nutrient intakes, and sources of sugar in the diet, will also continue to be monitored via other surveys and datasets. The most recently published results from the NDNS <sup>xviii</sup> showed that free sugars intake as a percentage of energy fell in children between 2008/09 and 2016/17 by 2.4 to 3.5 percentage points in each age group<sup>20</sup>, and by 1.2 percentage points in adults. However, intakes remained at least double the maximum recommendation of no more than 5% of total energy over the whole period.

Monitoring of the prevalence of obesity in both children and adults takes place regularly through the National Child Measurement Programme<sup>xix</sup> and Health Survey for England<sup>xx</sup>. However, it is not expected that changes will be seen in these data for some time as there is likely to be a significant lag between reductions in intakes and any change in obesity levels.

### Next Steps

PHE is committed to transparent monitoring of the sugar reduction programme. The next progress report, due in the first half of 2020, will provide a further assessment of progress by all sectors of industry towards achieving the 20% reduction ambition.

Next steps for the other parts of the wider reformulation programme are set out below and PHE will discuss and engage extensively with stakeholders on all these areas:

- final work towards setting guidelines for the foods included in the calorie reduction programme

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<sup>20</sup> Child year groups used in NDNS reporting are 1½ to 3 years, 4 to 10 years and 11 to 18 years.

- work towards revising the salt reduction targets following publication of the government's prevention green paper<sup>xxi</sup> which included an ambition to further reduce population salt intakes by 1g per day. PHE will publish the revised targets in 2020 for industry to achieve by mid-2023
- following the publication of PHE's review on the evidence for action on commercial baby foods and drinks<sup>xxii</sup>, the government's prevention green paper committed to challenge businesses to improve the nutritional content of these products. PHE will publish guidelines for commercial baby foods and drinks in early 2020, and monitor industry's progress
- work has begun on the next phase of engagement with specific parts of the out of home sector and will be focused towards travel and leisure businesses.

# Appendix 1: Guide to the category tables and charts

A range of statistical tables and charts highlighting progress between the baseline year (2015) and year 2 (2018) are provided for each of the categories included in the PHE sugar reduction programme in the accompanying excel tables. This guide explains how these tables have been constructed and how to interpret them. See Appendix 2 for further information about the data sources and methodology. For all tables, percentage changes have been calculated on unrounded figures.

## Main tables for retailers and manufacturers

### **Table 1: Simple average and sales weighted average (SWA) total sugar content (g/100g) for retailer own brand and manufacturer branded products**

This table provides the simple average and sales weighted average (SWA) total sugar content (g/100g) for baseline and year 2. Figures are given for baseline (2015) and year 2 (2018) as well as the percentage change for both metrics over this period.

### **Table 2: Simple average and sales weighted average (SWA) total sugar content (g/100g) by retailer own brand or manufacturer branded products**

As Table 1 but with separate estimates for retailers and manufacturers. The combined figures from Table 1 for retailers and manufacturers are also included for comparison purposes.

### **Table 3: Simple average and sales weighted average calories in products consumed on a single occasion (single serve) for retailer own brand and manufacturer branded products**

This table provides simple average and sales weighted average single serve calories per portion (kcal) for baseline (2015) and year 2 (2018), as well as the percentage change for both metrics over this period.

### **Table 4: Simple average and sales weighted average calories in products consumed on a single occasion (single serve) for retailer own brand and manufacturer branded products**

As table 3 but with separate estimates for retailers and manufacturers. The combined figures from table 3 for retailers and manufacturers are also included for comparison purposes.

**Table 5: Total sales and sugar sales for retailer own brand and manufacturer branded products**

This table provides total sales and sugar sales in tonnes for baseline (2015) and year 2 (2018). It also shows the proportion of sales each category contributes to the overall level. The percentage change in total and sugar sales is given over this period along with the percentage point change in the contribution each category makes to the total.

**Table 6: Total sales and sugar sales by retailer own brand or manufacturer branded products**

As Table 5 but with separate estimates for retailers and manufacturers. This table also shows the contribution of total category sales by retailers and manufacturers. The combined figures from Table 3 for retailers and manufacturers are also included for comparison purposes.

**Table 7: Sales (litres) and sales weighted average (SWA) total sugar content (g/100ml) and sales weighted average single serve calories per portion (kcal) for drinks covered by Soft Drinks Industry Levy (SDIL) for retailer own brand and manufacturer branded products by socio economic group**

This table provides information on sales in litres and sales weighted average total sugar content (g/100ml) and single serve calories per portion for products covered by the Soft Drinks Industry Levy by socio economic group. Figures are given for baseline (2015) and year 2 (2018) as well as the percentage change for both metrics over this period.

**Main tables for the out of home sector**

**Table 8: Simple average total sugar content (g/100g) for the out of home sector**

This table provides the simple average total sugar content (g/100g). Figures are given for baseline (2017 for the out of home sector) and year 2 (2018) as well as the percentage change for both metrics over this period.

**Table 9: Simple average and sales weighted average calories in products consumed on a single occasion (single serve) for the out of home sector**

This table provides simple average single serve calories per portion (kcal) for baseline and year 2. Figures are given for baseline (2017) and year 2 (2018) as well as the percentage change for both metrics over this period. It also includes the equivalent simple averages for the in-home sector.

**Table 10: Simple average total sugar content (g/100ml) and simple average single serve calories per portion (kcal) for drinks covered by Soft Drinks Industry Levy (SDIL) for the out of home sector**

This table provides information on the simple average total sugar content (g/100ml) and single serve calories per portion for products covered by the Soft Drinks Industry Levy for the out of home sector. Figures are given for baseline (2017) and year 2 (2018) as well as the percentage change for both metrics over this period. It also includes the equivalent simple averages for the in-home sector.

**Table 11: Simple average total sugar content (g/100g) and simple average single serve calories per portion (kcal) for products consumed on a single occasion (single serve) for contract caterers in the out of home sector**

This table provides the simple average total sugar content (g/100g) and single serve calories per portion (kcal) for catering companies in the out of home sector for year 2 (2018). No comparison is made to baseline (2017) as the number of products for which data was collected in each year is very different.

**Appendix tables for the retail and manufacturer sector**

**Appendix Table 1: Sales weighted average (SWA) total sugar content (g/100g) and sales weighted average single serve calories per portion (kcal) for retailer own brand and manufacturer branded products**

This table provides information on the following metric by category for baseline (2015), year 1 (2017) and year 2 (2018) and the percentage change over this period.

SWA Total Sugar (g/100g):

- number of products with real nutrition information
- proportion of all products that have real nutrition information (% of all products in category)
- proportion of volume sales with real nutrition information (% of all sales in category)
- volume sales by category as a proportion of all sales (%)
- SWA total sugar content (g/100g)

Calories in products likely to be consumed on a single occasion (single serve):

- number of products with real nutrition information
- proportion of all products that have real nutrition information (% of all products in category)

- proportion of volume sales with real nutrition information (% of all sales in category)
- volume sales by category as a proportion of all sales (%)
- SWA calories per portion (for single serve products - kcal)

**Appendix Table 2: Percentage change in SWA total sugar for the top 10 manufacturers and top 10 retailers based on total sugar sales in the category**

This table provides information on the change in sales weighted average total sugar (g/100g) between baseline (2015) and year 2 (2018) for the top 10 selling manufacturers and retailers defined by their total sugar sales.

Manufacturers and retailers are listed in alphabetical order within each category. They are not listed by volume of sugar sales. The list includes those who account for the top 80% of sugar sales. For manufacturers, any businesses which did not have at least 1% of sales in 2015 and 2018 were removed. A maximum of ten retailers and ten manufacturers are shown.

Aldi and Lidl brands, and all cakes and morning goods are compared with a baseline of 2017 rather than 2015 as their data for the earlier year are not robust.

**Appendix Table 3: Percentage change in SWA calories for products likely to be consumed on a single occasion for the top 10 manufacturers and top 10 retailers based on total servings in the category**

This table provides information on the change in sales weighted average total sugar (g/100g) between baseline (2015) and year 2 (2018) for the top 10 selling manufacturers and retailers defined by their total sugar sales.

Manufacturers and retailers are listed in alphabetical order within each category. They are not listed by volume of sugar sales. The list includes those who account for the top 80% of sugar sales. For manufacturers, any businesses which did not have at least 1% of sales in 2015 and 2018 were removed. A maximum of ten retailers and ten manufacturers are shown.

Aldi and Lidl brands, and all cakes and morning goods are compared with a baseline of 2017 rather than 2015 as their data for the earlier year are not robust.

**Appendix Table 4: Sugar content and nutrient changes for top 20 manufacturer brands and retailer own brands based on total sugar sales in a category**

This table provides information on the change between baseline (2015) and year 2 (2018) for the top 20 selling manufacturer brands and retailer own brands defined by their total sugar sales.

Aldi and Lidl brands, and all cakes and morning goods are compared with a baseline of 2017 rather than 2015 as their data for the earlier year are not robust.

The metrics shown are the simple averages for:

- sugar (g/100g) including the direction of movement from baseline
- calories (kcal/100g) including the direction of movement from baseline
- saturated fat (g/100g) (only direction of movement from baseline is shown)
- salt (g/100g) (only direction of movement from baseline is shown)

#### **Appendix Table 5: Calories in products consumed on a single occasion (single serve) for top 30 products by total servings in a category**

This table provides information on the change in calories per portion between baseline (2015) and year 2 (2018) for the top 30 selling manufacturer and retailer products defined by sales in servings.

Aldi and Lidl brands, and all cakes and morning goods are compared with a baseline of 2017 rather than 2015 as their data for the earlier year are not robust.

#### **Product Density Curves**

This tab shows the product density curves for each category for total sugar per 100g and calories for products likely to be consumed on a single occasion. The curve is a smoothed line of best fit through the underlying data points which allow the general direction of change to be seen clearly. Therefore, the number of products for a particular content of sugar is an approximation rather than the exact number.

#### **Appendix tables for the out of home sector**

#### **Appendix Table 6: Percentage change in Simple Average total sugar (g) and calories per portion (kcal) for the top out of home businesses based on total sugar sales in the category**

This table provides information on the change in the simple average total sugar (g/100g) between baseline (2017) and year 2 (2018) for the top 10 selling businesses defined by their total sugar sales for brands with nutrition data.

## Appendix 2: Details of the data sources and methods used to assess progress of the sugar reduction programme

Analysis has been undertaken to examine trends in the sugar and calorie content of products between the baseline year (2015) to year 2 (2018) in the food and drink categories that are included in the sugar reduction programme, for both the in-home and out of home sector.

A list of the categories included are as follows:

- biscuits
- breakfast cereals
- cakes
- chocolate confectionery
- ice creams, lollies and sorbets
- morning goods
- puddings
- sweet confectionery
- sweet spreads and sauces
- yogurts and fromage frais

An analysis has also been carried out to assess changes in the sugar content of drinks covered by the Soft Drinks Industry Levy (SDIL) during the same period.

### Data sources

#### Retailers and manufacturers (in-home sector)

The baseline and year 2 estimates of sugar and calorie content by food group for retailers and manufacturers use data from Kantar Worldpanel's take home consumer panel. Kantar Worldpanel is a global market research business which runs a continuous reporting panel of 30,000 households across Great Britain, recording details of all food and drink purchases brought in to the home, including the volume of sales.

Kantar Worldpanel's sample of households reflects the demographic makeup of the British population. Demographic targets for the sample are based on region, social class, age of main shopper, household composition and household size. The data collected are weighted to provide a representative picture of total food and drink purchasing in Great Britain over the time period for which data are provided.

The 2018 dataset used for monitoring progress in year 2 of the sugar reduction programme covers the 52 weeks ending 9 September 2018. It includes total volume of sales in kilograms/litres/servings and nutrition data for individual food products per 100g/100ml/serving as well as details of pack size (such as number of products included in multipacks). The baseline dataset covered the 52 weeks ending 31 January 2016 and the year 1 dataset covered the 52 weeks ending 10 September 2017.

Kantar Worldpanel aims to collect all nutrition data from food labels on individual products via the use of fieldworkers who visit key retail stores and capture the information provided on packaging on a rolling 4 monthly basis. This is an improvement from the data being collected every 6 months in the baseline year. Kantar also receive nutrition information from third parties, Brandbank on a continuous basis and MySupermarket at intervals throughout the year. The most recent nutrition information from these 3 sources is then used.

Where Kantar Worldpanel is able to collect the nutrition data, usually for the majority of products in a category, this is termed 'real' (real and found) data. Where this is not possible, nutrition values are either copied across from similar products within the same brand (for example using a different pack size, known as 'cloned') or an average value for the category or product type is calculated and used instead. This is known as 'imputed' data.

Only real and cloned data has been used for the analyses in this report which present average nutrition information. This is because an imputed value would not take account of any recent reformulation of a particular product unless there has been wholesale reformulation within the product category. The imputed data is used in the analyses of sales volumes to ensure the total level of sales is reported.

### Time periods covered for retailers and manufacturers

Where possible, comparisons are made between the baseline (2015) and year 2 of the programme (2018). This is the case for the majority of categories and businesses included in the report for retailers and manufacturers.

However, there are 3 instances where comparisons are made to a baseline of 2017 rather than 2015.

Data for cakes and morning goods has been gradually improved since the programme began and while limitations with the data for cakes and morning goods remain, the data included in the 2015 dataset for these categories had a substantially greater degree of limitations so has not been used as the baseline for these categories. Improvements were made to the data for these categories in the 2017 dataset, and further improvements were subsequently made for the 2018 datasets. Therefore, it has been

decided to use 2017 as the baseline period for both these categories. Comparisons with 2017 should still be made with caution, as data were collected for around 50% more products in 2018 than 2017. The 2017 cakes and morning goods data has been used to estimate the data for 2015 in tables that include data for all categories combined so that progress can be measured against a baseline. Therefore, any progress made between 2015 and 2017 for these categories will not be included.

There was no specific collection of nutrition data for Aldi and Lidl in 2015 so comparisons in the appendix tables use 2017 as the baseline for these retailers. However, the 2015 data for these retailers has been used in the calculation of the overall and category level figures in this report as including and excluding these data was shown to have little impact.

Due to an error with how nutritional information was labelled on Häagen-Dazs ice cream, data for 2015 cannot be used. As a result, any comparisons made for this range of products uses the 2017 data as a baseline and comparisons are made against this.

### Eating out of home sector

Unlike the retail and manufacturing sectors, there is no single data source that provides both sales and nutrition information for the eating out of home sector. There is currently no legal obligation to provide nutrition information for foods consumed out of home although many businesses do provide this on their websites, leaflets or menus.

### Sales data for foods eaten out of home

For the baseline data presented for 2015, PHE used data on food purchases collected by NPD from their Consumer Reports on Eating Share Trends (CREST) survey. Following a competitive tender process, the contract for providing out of home sales data for 2017 and subsequent years was awarded to MCA. Unlike the NPD sales data available for the 2015 baseline analysis, MCA's sales data (based on the reported number of servings of product consumed<sup>21</sup>) is provided at individual business level which is invaluable to PHE in its monitoring of the programme. As a result, the 2018 out of home data is compared with data from 2017, as opposed to 2015.

MCA's Eating Out Panel is a monthly tracker of consumer behaviour in relation to eating and drinking out of home. There are 72,000 in-depth online interviews conducted each year (6,000 per month). The panel is representative of the adult population in the UK in terms of age, gender and region. It is a continuous tracker interviewing respondents every day of the year but not a continuous set of the same panel members.

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<sup>21</sup> Note that additions to meals such as extra chips might not be recorded by the panel member.

Eating Out Panel interviewees provide the following information:

- frequency of eating and drinking out generally and at different times of the day (breakfast, lunch, dinner and snacking)
- full detail of the most recent eating and drinking out occasions:
  - most recent breakfast, lunch and dinner visits within the last 2 weeks and snack visit on the previous day
  - details requested include channel and operator brand, reason for eating out, what was eaten and how much money was spent

In addition to providing data from their existing Eating Out Panel, MCA also conducted 2 bespoke data collections:

- a nationally representative survey of 5,000 UK parents to gather information about children's eating and drinking out and
- a survey of 2,000 adults to collect information about drinking out occasions where food is not consumed

All 3 datasets were combined in the data used in this analysis.

### Nutrition information for the out of home sector

Nutrition information for the eating out of home sector has been collected by PHE from businesses and additionally by MCA from websites. From 2017, a far more comprehensive range of information has been collected providing a more representative picture of the eating out of home sector compared with 2015, and this was improved upon in 2018.

For the majority of out of home products, there is no one-to-one mapping between the nutrition data that was collected and purchases by item. For example, a panellist may say that they had an ice cream in a restaurant, but the type of ice cream is not recorded, and as the restaurant has several flavours of ice cream all of which have different nutrition data it is not possible to accurately match the nutrition data to the actual ice cream purchased. On other occasions nutrition data isn't available for a particular operator but may be available for the same product type at similar operators.

As it is not possible therefore to match purchases and nutrition information at product level, the decision was taken from 2018 to move to reporting simple averages, using only the nutrition data provided to PHE by businesses (and additionally by MCA). This ensures that nutritional information is correctly ascribed to products and businesses.

## Data cleaning and categorisation

Before any analysis is carried out on either set of data, it is cleaned and categorised.

Cleaning the data involves making several checks and adjustments to the nutrition data to ensure that it is as accurate as possible. This process includes checking the nutritional data of a product to see whether it relates to the product as sold or as consumed, decisions around whether to exclude products based on their sugar content and conversion or dilution factors being applied to some foods and drinks (for squashes and cordials for example).

The commercial datasets used from Kantar Worldpanel and MCA have quality control measures built into their production processes. In addition, PHE has carried out its own quality control checks of all data used and all analyses. These include:

- checking datasets for implausible values, and excluding those from the analysis
- checking the quality of certain variables by cross checking against other variables that show product detail in the datasets, or cross-referencing to other datasets
- specific data checks and questions sent to data suppliers as and when they arise

Products are categorised into 1 of the sugar categories or classed as a soft drink. The below table describes the sorts of products that go in each category and the drinks in scope of SDIL:

Product Category	Category description
<b>Biscuits</b>	All types of sweet biscuits, cereal bars and toaster pastries; breakfast biscuits; rice cakes; gluten free biscuits; in-store bakery products
<b>Breakfast cereals</b>	All breakfast cereals, for example, e.g. ready to eat cereals, granola, muesli, porridge oats, instant porridge, and other hot oat cereals
<b>Cakes</b>	All types of cakes, ambient and chilled, including cake bars and slices
<b>Morning goods</b>	Includes croissants, crumpets, English muffins, pancakes, buns, teacakes, scones, waffles, Danish pastries, fruit loaves, bagels.
<b>Chocolate confectionery</b>	Includes chocolate bars, filled bars, assortments, carob, diabetic and low-calorie chocolate and seasonal products
<b>Sweet confectionery</b>	Includes boiled sweets, gums, pastilles, fudge, chews, mints, rock, liquorice, toffees, chewing gum, sweet popcorn, nougat and halva, seasonal products
<b>Ice cream, lollies and sorbets</b>	All types of ice cream, dairy and non-dairy, choc ices, ice cream based desserts, milk ice lollies, ice lollies; low fat/low calorie ice cream; sorbet; frozen yogurt
<b>Puddings</b>	All types of ambient, chilled and frozen large and individual pies, tarts and flans, cheesecake, gateaux, dairy desserts, sponge and rice puddings
<b>Sweet spreads and sauces</b>	Includes chocolate spread, peanut butter, ice cream and dessert sauces, dessert toppings and compotes, jam type spreads

Product Category	Category description
<b>Yogurts and fromage frais</b>	Includes all sweetened dairy and dairy alternative yogurt and fromage frais products and all yogurts containing low/non-caloric sweeteners
<b>Soft drinks</b>	All sugary drinks subject to the Soft Drinks Industry Levy (SDIL). Sugary milk drinks are excluded.

At the same time, work is also undertaken to determine which products are to be included as part of the analysis of calories per single serve products. These products, which are likely to be consumed by an individual at 1 time, have been identified for each category (except breakfast cereals and sweet spreads and sauces) to study the distribution of calories per portion. A description of the types of products included in the portion size analysis is provided in the table below. Items sold both individually and in multi-packs have been considered.

### Descriptions of products considered to be single serve items within each food category

Product category	Single serve items
Biscuits	<p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>biscuit/cereal bars, including two-finger Kit Kats, Penguin bars, etc</li> <li>mini bags (<math>\leq 80g</math>) of biscuits/chocolate mallows/rice cakes</li> <li>large biscuits (e.g. giant custard cream) and individual cookies up to 80g</li> <li>packets of 3 biscuits (e.g. short bread, bourbons), toaster pastries</li> </ul> <p><b>Excludes:</b> all products below 10g or above 80g (e.g. roll packs, packet biscuits, large packs of rice cakes); selection/assortment boxes; boxes of cookies</p>
Cakes	<p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>single portions/slices of cake products, and single serve items in multipacks</li> </ul> <p><b>Excludes:</b> all products below 10g (e.g. 'bitesize' products) or above 150g (e.g. large whole cakes, pies, tarts, Swiss rolls.), small whole cakes marketed for sharing occasions</p>
Chocolate confectionery	<p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>individual chocolate bars (sold as single items or part of multi packs) (<math>\leq 80g</math>)</li> <li>mini and treat size bags (<math>\leq 80g</math>)</li> <li>duo, trio and bar and half chocolate</li> <li>chocolate lollipops</li> <li>single festive items (<math>\leq 80g</math>) e.g. chocolate bunnies, Santas or eggs</li> </ul> <p><b>Excludes:</b> all products below 10g or above 80g (e.g. moulded chocolate bars/slabs, sharing bags); boxes/tins of chocolate; seasonal products sold as multiple miniature items (e.g. chocolate coins, Christmas tree decorations, advent calendars)</p>
Ice cream, lollies and sorbets	<p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>miniature ice creams</li> <li>ice cream in a cone or on a stick</li> <li>lollies, choc ices</li> <li>cups/tubs (<math>\leq 120g</math>)</li> </ul> <p><b>Excludes:</b> all products exceeding 120g</p>
Morning goods	<p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>morning goods sold as single items or single serve items in multipacks</li> </ul> <p><b>Excludes:</b> all products below 10g (e.g. 'bitesize' products) or above 150g; all pancakes and small waffles (people generally consume more than one); finger buns</p>

Product category	Single serve items
Puddings	<p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>• individually wrapped puddings, puddings in multipacks (e.g. 2 pack sticky toffee puddings)</li> </ul> <p><b>Excludes:</b> all products below 35g (e.g. 'bitesize' products) or above 200g; patisserie/party selections</p>
Sweet confectionery	<p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>• lollipops, tubes and packs of sweets (<math>\leq 100\text{g}</math>)</li> <li>• multipacks where individual items are less than or equal to 100g.</li> </ul> <p><b>Excludes:</b> all products below 10g or above 100g; products sold in pellets or pieces; wafers/cones</p>
Yogurts and fromage frais	<p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>• yogurts weighing 100-200g</li> </ul> <p><b>Excludes:</b> all products below 100g (typically only marketed to children) or above 200g</p>
SDIL	<p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>• All sugary drinks subject to the Soft Drinks Industry Levy (SDIL)</li> </ul> <p><b>Excludes</b></p> <ul style="list-style-type: none"> <li>• Sugary milk drinks</li> </ul>

## Analysis

For the in-home sector, simple averages (SA) of the sugar content of products sold, sales weighted averages (SWA) of sugar content (g/100g) and calories in products likely to be consumed in a single occasion (single serve) have been calculated for each product and category, where possible, using the most recent data. The value for 2018 is then compared with the baseline year (2015 for all categories apart from Cakes and Morning Goods where a 2017 baseline is used, due to poor data quality in 2015) and a percentage change between the 2 years is calculated. This is done for the whole category, as well as manufacturer brands and retailer own brands individually. In addition, an estimate has been made of the total tonnes of sugar sold and how this is split between the different sugar categories looked at in this report.

For drinks included in the SDIL in the in-home sector, SA and SWA of sugar content and calories have been calculated for each of the different levy categories (less than 5g per 100ml, 5g or more but less than 8g per 100ml and 8g or more per 100ml) and overall for the most recent year of data available. As with the different food categories, these have been compared with the 2015 data and a percentage change calculated. An analysis by socio-economic group has also been conducted.

For the out of home sector, only simple averages sugar content and calories per serving for products sold have been calculated. These simple averages have been compared with the data available for 2017 (the baseline for the out of home sector) and percentage changes have been calculated. These data have been presented alongside simple averages for the in-home sector to give some context.

Simple average sugar content of products sold have also been used to look at the drinks included in the SDIL which are purchased in the out of home sector. As with the in-home sector, the 3 different categories of the levy have been presented as well as the percentage change.

Several supplementary tables have also been produced. For the in-home sector, these include an overview of the category (Appendix Table 1), a table looking at the change in SWA total sugar content for those manufacturers and retailers that make up the majority (80%) of the market share for each category (Appendix Table 2) and an equivalent table for calories for products likely to be consumed on a single occasion (Appendix Table 3). The SWA of sugar content and nutrient changes for the top 20 brands (based on total tonnes of sugar sold) by category is shown in Appendix Table 4, and the SWA of calories per portion for the top 30 products (based on total servings sold) by category in Appendix Table 5.

For the out of home sector, due to the limitations of the data only 1 supplementary table has been produced. This looks at the change in simple average total sugar content and calories per single serving for the top 10 (based on total tonnes of sugar sold) out of home businesses (Appendix Table 6).

Averages expressed in g/100g or calories per 100g will not pick up any reformulation work which was solely based on reducing product size. This is best explained by using an example; consider a product which weighs 50g and contains 10g of total sugar and 200 kcals, meaning its sugar and calorie content per 100g are 20g and 400 kcals respectively. If it was reformulated purely by reducing the size of the product to 40g and reducing the sugar and calorific content proportionately to 8g of sugar and 160 kcals, then the averages per 100g remain at 20g of sugar and 400 kcals so it would appear as if no progress had been made. This change, however, would be picked up in the analysis of calories per single serve portion.

## Product category-specific considerations and exceptions

### **Breakfast cereals and sweet spreads and sauces**

Both categories have been excluded from the analysis of calories per portion. This is because no standard portion sizes have been set for these categories as consumers take multiple servings out of individual packs and it is not possible to measure single portions from these.

### **Cakes and morning goods**

Volume of sales of cakes and morning goods in the Kantar Worldpanel dataset are generally presented in terms of portions or servings and information on portion size is

not routinely available for many products. To estimate sugar content (g/100g) for many products in these categories the portion size is needed and must be collected through fieldwork in retail stores. Kantar Worldpanel conducted these exercises in both 2017 and 2018. Cake mixes have also been excluded from the analysis as nutritional information is predominantly provided 'as sold', which skews sugar content in the category towards the higher end.

Information on the difficulties associated with collecting data on cakes and morning goods was mentioned previously and an explanation given for why 2018 data in this category is compared with 2017 as the baseline.

### **Ice creams, lollies and sorbets**

Analysing the nutrient data for ice creams, lollies and sorbets is more problematic than it is for some other categories covered by the programme. This is because the nutrition information given on pack for these products can be expressed as either grams of total sugar per 100 ml or grams of total sugar per 100g rather than always being stated as grams of total sugar per 100g (as it is for the other categories). Some businesses may add air to their products which makes the total sugar content lower when expressed per 100ml than per 100g. Therefore, an adjustment needs to be made to ensure comparisons are on a like-for-like basis.

The analysis included for ice creams, lollies and sorbets in the year 1 progress report was based on the year 1 (2017) dataset and used conversion factors to change any on pack nutrition information per 100ml to per 100g. The conversion factors went some way to accommodate the different types of ice cream by using different factors for soft scoop or premium ice cream, for example, but there have been some concerns expressed about the accuracy of this process.

Therefore, this process has not been replicated for the year 2 report and instead the nutrition information has been used as provided on pack regardless of whether this is expressed per 100g or per 100ml. While this is a simplistic method it does allow the sugar content of ice cream, lollies and sorbets to be tracked over time as long as the ratio of products where this information is in ml or grams stays roughly constant over time.

However, there are more products in the Kantar dataset for 2018 with nutrition information expressed in millilitres (around 30% of all ice cream products) than there were in 2015 (around 10%). This is primarily due to the Kantar Worldpanel data changing from using nutrition information per 100g as the default if it was provided in both units in 2015 and 2017 to using nutritional information per 100ml as the default in 2018.

If this is not adjusted for it will give a misleading comparison and may lead to an artificial decrease in sugar content in products over the analysis period which reflects the shift to more products having their nutrition information expressed as grams of total sugar per 100ml, rather than any real reduction in sugar content.

This has been adjusted for by scaling up the influence of the nutrition information expressed per 100ml in 2015 and 2017 (by weighting) and scaling down the influence of the information expressed per 100g for the same years, so it matches as much as possible the distribution of products in 2018.

This is best demonstrated by the following fictional example:

	Actual Data			Adjusted Data		
Baseline	Total Sales	Sugar Sales	g/100g	Total Sales	Sugar Sales	g/100g
Category A	300	100	33.3	300	100	33.3
Category B	400	120	30.0	400	120	30.0
Ice Cream gms	90	20	22.2	80	18	22.2
Ice Cream ml	10	1	10.0	20	2	10.0
Total	800	241	30.1	800	240	30.0

Year 2	Total Sales	Sugar Sales	g/100g
Category A	310	90	29.0
Category B	420	120	28.6
Ice Cream gms	120	22	18.3
Ice Cream ml	30	3	10.0
Total	880	235	26.7

In this example the split of sales measured in grams and ml in 2018 has been applied to the 2015 sales data to adjust it to the same ratios while keeping overall sales constant at 100 in 2015.

The nutrition information in 2015 is then used to work out the level of adjusted sugar sales which then feeds into the overall SWA sugar per 100g as follows:

$$SWA = \frac{\sum sales \times sugar}{\sum sales}$$

Without adjustment:

$$SWA = \frac{((300 \times 33.3) + (400 \times 30.0) + (90 \times 22.2) + (10 \times 10))}{(300 + 400 + 90 + 10)} = 30.1 \text{ g/100g}$$

With adjustment:

$$SWA = \frac{((300 \times 33.3) + (400 \times 30.0) + (80 \times 22.2) + (20 \times 10))}{(300 + 400 + 80 + 20)} = 30.0 \text{ g/100g}$$

Therefore, a more realistic estimate of the change in the SWA for sugar is that it has moved from the adjusted figure of 30.0g per 100g in 2015 to 26.7g per 100g in 2018.

A further issue for ice cream is that there was an error with how nutritional information was labelled on Häagen-Dazs ice cream in 2015 and therefore data for that year cannot be used. As a result, any comparisons made for this range of products uses the 2017 data as a baseline and comparisons are made against this.

### **Puddings**

Quick-set jellies, powdered desserts and custards have been excluded from the analysis as nutritional information is predominantly provided 'as sold', which skews sugar content in the category towards the higher end.

### **Soft drinks**

Where nutrition information for dilutable fruit squashes has been provided 'as sold' (assumed for squash products with more than 12.5g sugar per 100g), this has been converted to nutritional information 'as consumed' by dividing by a factor of 5 to account for dilution. The cut-off of 12.5g and dilution factor were agreed by examining the nutrition information and dilution instructions for a sample of products online.

### **Sweet Confectionery**

Sweet confectionery has been excluded from analysis of the out of home sector due to the data between the 2 years not being comparable. This is because the nutritional information collected in 2017 and 2018 was from quite different businesses, which was leading to large changes for the category as a whole which were due to the data not being comparable between the 2 years.

### **Yogurts and fromage frais**

Some errors are known to be present in the nutrition information for certain products such as implausible sugar content. Yogurts is the only category where a minimum sugar content of 3.8g per 100g was agreed due to the naturally occurring lactose; all products with a sugar content lower than this have been excluded from the analysis. In this progress report, sugar content, sugar SWAs and simple averages for yogurts are presented without any adjustment for lactose.

## **Aldi & Lidl**

As reported in the year 1 progress report, it was not possible to report on progress for Aldi and Lidl due to lack of baseline data. Data is now available for these retailers for 2017 and 2018, and therefore progress reported for these retailers and their products will compare year 1 with year 2.

## **Data limitations**

### **Retailer and manufacturer data**

The data received from Kantar Worldpanel is based on a survey sample. Consequently, there is a degree of uncertainty present in the results calculated but Kantar Worldpanel do calculate confidence intervals around the estimates.

Kantar Worldpanel's fieldworkers go in to stores to collect nutrition information on a rolling 4-month basis but this does not update all products in the dataset each time. This means that some reformulation changes may not be picked up and reported on in the year that they occur.

### **Eating out of home data**

Only simple averages are published due to problems linking purchases and nutrition data as explained previously. Comparisons between year 1 and year 2 should also be treated with caution due to differing numbers and profile of products in each year.

## **Quality assurance**

As previously mentioned, the commercial datasets used from Kantar Worldpanel and MCA have quality control measures built into their production process and the data has also been cleaned by PHE. In addition to this, once the data has been analysed, the analysis has been independently replicated and business specific results have been examined to ensure they are plausible and comparable.

Specific data checks and questions were sent to data suppliers as and when they arose where there were anomalies or other queries over the collection of certain variables or the viability of data collection from certain outlets.

## **Impact of changes in sales on sales weighted averages**

The sales weighted average (SWA) total sugar g/100g and calories for products likely to be consumed on a single occasion presented in this report are determined by either the sugar or calorie content respectively, and the volume of sales of each product

expressed in tonnes. The sales volume determines the contribution (or weight) each product makes to the overall sugar or calorie SWA. Therefore, a top selling product would make a higher contribution to the SWA than a lower selling product. It is also the case that an increase in sales of a product with a higher sugar content relative to other products can cancel out any contribution of the reduction in the sugar content of that product to the change in the SWA. This is demonstrated by the following example.

Consider there are 3 chocolate confectionery products A, B and C which have the following sales (in tonnes of product sold) and sugar content per 100g in periods 1 and 2 respectively.

The table shows that between the 2 periods there was an increase in sales for product A of 35% and a decrease in sugar content for product A of 4%.

Product	Period 1		Period 2		Change	
	Sales (tonnes)	Sugar (g/100g)	Sales (tonnes)	Sugar (g/100g)	Sales (%)	Sugar (%)
A	1,000	50	1,350	48	35	-4
B	500	30	500	30	0	0
C	100	20	100	20	0	0

The impact on the sales weighted average sugar per 100g is as follows:

$$SWA = \frac{\sum sales \times sugar}{\sum sales}$$

$$SWA \text{ in period 1} = \frac{((1000 \times 50) + (500 \times 30) + (100 \times 20))}{(1000 + 500 + 100)} = 41.9 \text{ g/100g}$$

$$SWA \text{ in period 2} = \frac{((1350 \times 48) + (500 \times 30) + (100 \times 20))}{(1350 + 500 + 100)} = 41.9 \text{ g/100g}$$

This example shows that even though product A has been reformulated to contain less sugar the overall SWA sugar content in g/100g across the 3 products has remained the same. This is because sales for product A have increased and product A has a higher sugar content than products B and C. Overall this increase in sales has cancelled out the impact of the decrease in sugar content in product A.

In other words, even though product A has less sugar in period 2, there are more high sugar products in total sold in period 2 than in period 1.

While this is a theoretical example designed to show the impact of a change in sales, the results in this report have been impacted in this way.

As seen in the results section in Figure 2, there was a decrease of 0.3% in the SWA total sugar per 100g for chocolate confectionery. However, Figure 19 showed there has been an increase of 0.8 percentage points in the proportion of total sales that are chocolate confectionery. Therefore, if looking at the overall change for all categories, and as chocolate is a relatively high sugar product, this increase in sales will offset some of the reduction in total sugar content per 100g for chocolate.

This can also work the other way round if the proportion of products sold that have low sugar content decreases over time. Between 2015 and 2018, there was a decrease of 0.5% percentage points in the proportion of sales from breakfast cereals, so some of the 8.5% reduction in SWA total sugar per 100g for breakfast cereals will be cancelled out when looking at the average across all categories. This is because breakfast cereals in general have lower sugar content than the average of all categories included in the analysis.

## Appendix 3: Case studies

### Data request

As was the case with the year 1 report, PHE acknowledge that not all reformulation progress will be captured in the data used to assess progress in this year 2 report. Therefore, in December 2018, businesses were invited to submit case studies with supporting quantitative data for each of the sugar reduction categories included in their portfolio and soft drinks which are monitored as part of the Soft Drinks Industry Levy across 2 specific time periods. The quantitative data was required to include portion size changes (in grams) and the total energy (kcal/100g) and sugar content of products (g/100g) before and after the reformulation process.

Through the submission of case studies PHE was aiming to enable businesses to highlight the success of any reformulation activity not captured in the datasets. This can be used as evidence to demonstrate progress towards the 20% sugar reduction ambition which is due to be achieved by 2020.

The 2 time periods covered by this year 2 report are:

- between year 1 and year 2 (September 2017 to September 2018)
- post year 2 (September 2018 to February 2019)

### Data received

Following the requests made, information was received from 54 businesses (16 out of home businesses, 9 retailers and 29 manufacturers).

The narrative and supporting quantitative data for each of the case studies was reviewed by 3 PHE nutritionists. The narrative was revised and edited by PHE only so that the information submitted from all businesses would be presented in a standard format. No calculations were performed by PHE on the supporting data received. All sales weighted averages, simple averages, percentages and sugar tonnage figures used in the case studies were provided by the relevant business.

Some case studies referenced products that were scheduled to launch either as new products, or as a relaunch of an existing product following reformulation, in 2019. While these actions may now have been completed, it was agreed that the narrative for both these instances would continue to be described as being achieved in the future as this is how the data was presented when first submitted to PHE such as “In 2019 xx products will be reformulated” and “In 2019, xx products are scheduled to launch”.

Where businesses included more than 1 product within a category, the sugar content of products before and after reformulation was declared as ranges, for example “the sugar content ranging from 8g to 10g sugar/100g before reduction, compared with 6g to 8g sugar/100g after reduction”

## Excluded case studies

Twenty-three studies were not included on the following basis:

- the reformulation was not confirmed such as when the reformulated recipe had not been finalised
- the reformulation resulted in a significant increase in other nutrients
- duplications where reformulation was originally presented in the year 1 sugar reduction progress report
- where there was limited, or no, data supplied to support the case study information
- information that was submitted for products that fall outside of the categories which form part of the PHE sugar reduction programme such as fermented (yogurt) drinks and milk-based drinks which will not be reported on until 2020
- products that did not meet the criteria of product reformulation/shifting high volume sugar sales

As part of the monitoring of progress for fermented (yogurt) drinks and juice and milk-based drinks, businesses will be invited to submit case studies for these products in 2020. PHE is responsible for monitoring the reformulation progress for products which are covered by the Soft Drinks Industry Levy, so case study information relating to these products were included in the report.

## Case study checks by businesses

As the information to be presented in the report was revised from what was submitted, 47 businesses were invited to review their case studies ahead of their inclusion in the report. A non-response was considered as approval for the information to continue to be included in the report.

Of those contacted:

- 12 businesses confirmed they were happy for the standardised case study information to be included in the report
- 16 businesses did not respond so these case studies were included unchanged
- 19 businesses responded to request revisions were made to how the information was presented

General updates or other changes requested were not actioned. There were no businesses that declined to have their case study information included in the report.

## Summary of data presented

A total of 156 case studies across 48 businesses are included below.

### 1. ALDI UK

Category	Timeframe	Details
Breakfast cereals	Between Year 1 and Year 2	Harvest Morn Golden Puffs were reformulated reducing the sugar content by 25% from 28g to 21g sugar/100g. The calorie content was also reduced from 391 kcal to 370 kcal/100g.
Cakes	Between Year 1 and Year 2	Chocolate eclairs, jam and cream doughnuts and the custard slice were reformulated reducing the sugar content by 14%, from an average of 21g sugar/100g before reformulation, compared with an average of 18g sugar/100g after reformulation. The calorie content was also reduced from an average of 326 kcal/100g before reformulation compared with an average of 318 kcal/100g after reformulation.
	Post-Year 2	The recipes of both the Holly Lane Blueberry Muffin and Mini Chocolate Brownie have been reformulated, achieving a 20% sugar reduction across both products. The sugar content of the Blueberry Muffin reduced from 25g to 20g sugar/100g and the sugar content of Mini Chocolate Brownie reduced from 47g to 37g sugar/100g.
Ice cream, lollies and sorbet	Post-Year 2	To help shift the sales to lower sugar alternatives Aldi have introduced 2 new high protein and lower calorie ice creams that contain 11g and 12g sugar/100g respectively.
Morning goods	Between Year 1 and Year 2	Everyday Essentials Sultana Scones were reformulated reducing the sugar content by 24%, from 25g to 19g sugar/100g.
Puddings	Post-Year 2	The Holly Lane Bramley Apple Pie was reformulated, reducing the sugar content from 32g to 25g sugar/100g and the portion size from 65g to 60.6g. This reduced the sugar content per 100g by over 20%.
Sweet confectionery	Post-Year 2	The recipes of Lances, Laces, Belts and Pencils have been reformulated, reducing the average sugar content across these products from 60g to 54g sugar/100g, achieving a 10% reduction in sugar. Aldi have also expanded the sugar free range of confectionery.
Sweet spreads and sauces	Between Year 1 and Year 2	Nutoka Chocolate Hazelnut Spread was reformulated reducing the sugar content by 7% from 58g to 54g sugar/100g. A further sugar reduction is planned for later in the year. Aldi have introduced 3 new nut butters (Almond, Peanut Butter Crunch and Peanut Butter Smooth) into their own brand range, the new products have no added sugar and have reduced the average sugar content of the "Peanut Butter" range from 7.7g to 6g sugar /100g.

Category	Timeframe	Details
Yogurts and fromage frais	Between Year 1 and Year 2	Five children's yogurt ranges have been reformulated achieving an average sugar reduction of 15%. Brooklea Little Delights Fromage Frais reduced by 17%, all variants of Brooklea Tube It reduced by 15%, Brooklea Double Delights Vanilla and Strawberry reduced by 23%, Brooklea Squidgy Pouches reduced by 5% and Everyday Essentials reduced by 25%.

## 2. Alpro

Category	Timeframe	Details
Yogurts and fromage frais	Between Year 1 and Year 2	At the end of 2017, 2 Alpro plant-based alternatives to yogurt with more fruits and no added sugars (Mango & Cherry flavours) were launched with a sugar content of 5.6g and 6g sugar/100g respectively. This is on average 45% lower than the average sugar content of Alpro standard fruited plant-based alternatives to yogurt (baseline 2015).
	Post-Year 2	In February 2019 reformulation of 3 Alpro plant-based alternatives to yogurt (Strawberry Big Pot 500g, Vanilla Big Pot 500g, Blueberry Big Pot 500g) were launched. The sugar content ranged from 9.2g to 9.6g sugar/100g before reformulation, compared with 7.4g to 7.9g sugar/100g after reformulation (achieving an average sugar reduction of 29%).

## 3. ASDA

Category	Timeframe	Details
Biscuits	Between Year 1 and Year 2	In May 2018 the recipe of Fruit Shortcake Biscuits (200g) was reformulated reducing the sugar content by 8% from 25g to 23g sugar/100g.
	Post-Year 2	In December 2018 the recipe of Chocolate Bourbons (300g) was reformulated reducing the sugar content by 14% from 29g to 25g sugar/100g.
Breakfast cereals	Between Year 1 and Year 2	Two breakfast cereals were reformulated. The sugar content of both Choco Squares (375g) and Fruit & Nut Muesli (750g) reduced by 14% from 29g to 25g sugar/100g.
	Post-Year 2	Two breakfast cereals were reformulated. The sugar content of Jungle Bites (375g) reduced by 14% from 26g to 22.4g sugar/100g and the sugar content of Choc Flakes (500g) reduced by 17% from 24g to 20g sugar/100g.
Cakes	Between Year 1 and Year 2	ASDA reformulated 6 Extra Special cakes. The sugar content was reduced by modifying the ratios of components (e.g. buttercream versus cake ratio). The sugar content ranged from 31g to 40g sugar/100g before reformulation, compared with 28g to 36g/100g after reformulation. In addition, 14 celebration cakes were reformulated by replacing the jam and frosting with lower sugar versions. On average the sugar content was reduced by 16%.
Ice cream, lollies and sorbet	Between Year 1 and Year 2	The recipes of 17 ice cream products including 2L tubs, Cones, Really Creamy 900ml, and Moments have been reformulated. The sugar content was reduced through the use of glucose syrup. The sugar content across the range reduced by 15%

Category	Timeframe	Details
		from 20.2g to 37.0g sugar/100g before reformulation, compared with 14.6g to 29.6g sugar/100g after reformulation.
	Post-Year 2	In January 2019, the sugar content of the ice cream roll was reduced by 7.8% from 27g to 24.9g sugar/100g.
Morning goods	Between Year 1 and Year 2	In April 2018, the recipe of the Smartprice Sultana Scone was reformulated reducing the sugar content by 42% from 25g to 14.6g sugar/100g.
Puddings	Post-Year 2	Asda reformulated 16 frozen desserts, reducing the sugar content of different components e.g. cream, sauces and biscuit bases. The sugar content across the range reduced by 16% from 19g to 36g sugar/100g before reformulation, compared with 14g to 33g sugar/100g after reformulation. This resulted in the removal of 76 tonnes of sugar.
Sweet spreads and sauces	Between Year 1 and Year 2	Between February and July 2018 6 chocolate spreads were reformulated to reduce the sugar and increase the starch content. The sugar content across the range reduced by 12% from 51g to 57g sugar/100g before reformulation, compared with 42.5g to 49.8g sugar/100g after reformulation.

#### 4. Azzurri

Category	Timeframe	Details
Ice cream, lollies and sorbets	Between Year 1 and Year 2	In Spring 2018 the Ask Italian Strawberry Gelato, which contained the highest level of sugar in the range, was removed as an option from the Kids Tip & Top Dessert (a dessert combination where the customer chooses their gelato flavour, sauce and 3 toppings).
	Post Year 2	In October 2018 both the choice to add a dessert sauce and the honeycomb piece (the highest sugar containing topping) were removed as an option from the Ask Italian Kids Tip & Top Dessert. In Spring 2019 Zizzi are expected to relaunch 4 gelatos and 2 sorbet products which have been reformulated to reduce the sugar content by 10% per portion.

#### 5. Bidfood

Category	Timeframe	Details
Cakes	Between Year 1 and Year 2	In June 2018 2 Everyday Favourites Chocolate Fudge Cakes were reformulated. The sugar content reduced by 22% from 41.8g to 32.5g sugar/100g; and a portion size reduction from 102g to 96g resulted in an overall reduction in the calories per portion from 418kcal to 385 kcal/serving. The new recipes also have slightly lower total and saturated fat and contain 33% less salt.
	Post-Year 2	In December 2018 4 Everyday Favourites Gateaux were reformulated. This included the Black Forest Gateau, where the sugar content reduced from 27.8g to 19.9g sugar/100g and the calorie content reduced from 304 kcal to 267 kcal/100g. Five more reformulated gateaux, with an average of 22% reduction in sugar /100g, are expected to launch in Spring/Summer of 2019.

## 6. Burton's Biscuit Company

Category	Timeframe	Details
Biscuits	Between Year 1 and Year 2	In July 2018 the Maryland Core Cookie range was reformulated, reducing the sugar content by 7% from 37.3g to 34.4g sugar/100g. The calorie content reduced from 497 kcal/100g to 491 kcal/100g.
	Post-Year 2	In February 2019 Maryland are scheduled to launch a Sugar Free Cookie. The sugar in the recipe will be replaced with Maltitol reducing the overall sugar content from 34.4g to 0.3g sugar/100g. The calorie content will be reduced from 491kcal to 434 kcal/100g.

## 7. Caffè Nero Group Ltd.

Category	Timeframe	Details
Biscuits	Post-Year 2	The recipe of the Oat and Raisin Cookie was reformulated reducing the sugar content from 42.6g to 30.1g sugar/100g. In addition, a reduction in portion size from 81g to 70g achieved a reduction in calorie content from 332 kcal to 301 kcal/serving.
Cakes	Between Year 1 and Year 2	The recipes of 3 filled muffins have been reformulated (Belgian Chocolate, Sicilian Lemon Curd and Blueberry), reducing the sugar content across these products from 25.3g to 37g sugar/100g before reformulation, compared with 21.1g to 29g sugar/100g after reformulation. Portion size reduction has also reduced the calorie content across the range from 415 kcal to 488 kcal/serving before reformulation compared with 376 kcal to 447 kcal/serving after reformulation.
Puddings	Post-Year 2	Replacement of Chocolate and Orange Cheesecake with a Sicilian Lemon Cheesecake, reduced the sugar content from 28.8g to 21.6g sugar/100g and the calorie content from 354 kcal to 301 kcal/100g.
Yogurts and fromage frais	Post-Year 2	Replacement of Honey Yogurt Granola with a Coconut Passionfruit Yogurt Granola reduced the sugar content from 16.5g to 11.2g sugar/100g, achieving a reduction in the calorie content from 184 kcal to 137 kcal/100g.

## 8. Cereal Partners Worldwide

Category	Timeframe	Details
Breakfast cereals	Between Year 1 and Year 2	Shreddies Original was reformulated resulting in the sugar content reducing from 14.9g to 12.5g sugar/100g and increasing whole grain from 94.4% to 96.2%. This is expected to remove approximately 330 tonnes sugar annually. This reformulated base recipe will also be used across both Coco Shreddies and Frosted Shreddies.

## 9. Co-operative food

Category	Timeframe	Details
Biscuits	Between Year 1 and Year 2	Eight biscuits have been reformulated. The sugar content of 4 biscuits within the Irresistible range reduced from 25.2g to 41.3g sugar/100g before reformulation, compared with 20.5g to 36.3g sugar/100g after reformulation. Four types of cookie

Category	Timeframe	Details
		have also been reformulated, reducing the sugar content from 36.5g to 40.9g sugar/100g before reformulation, compared with 33.4g to 38.2g sugar/100g after reformulation.
	Post-Year 2	The recipes of 16 biscuits, including 4 Irresistible Cookies and Shortbread Mini Bites Grab Bag have been reformulated, reducing the sugar content from 17.4g to 53.2g sugar/100g before reformulation, compared with 16.1g to 36.4g sugar/100g after reformulation. This is the equivalent to removing 16 million teaspoons of sugar across the biscuit range.
Breakfast cereals	Between Year 1 and Year 2	Seven breakfast cereals, including 2 flavours of muesli and 2 porridge pots, have been reformulated. The sugar content reduced from 5.4g to 28.5g sugar/100g before reformulation, compared with 3.9g to 26g sugar/100g after reformulation resulting in the removal of 4.6 million teaspoons of sugar.
Cakes	Between Year 1 and Year 2	Reformulation of the Irresistible Granola Squares reduced the sugar content from 31.8g to 29.9g sugar/100g and calorie content from 355 kcal to 345 kcal/portion.
	Post-Year 2	Eleven cakes, including bites, grab bags and food to go products, have been reformulated. The sugar content across the products has reduced from 23.1g to 41.7g sugar/100g before reformulation, compared with 19g to 40.7g sugar/100g after reformulation. The portion size of Food to Go Carrot Cake and Flapjack Bites (including Grab Bag) have also reduced from 68g to 60g and from 17g to 16g respectively.
Ice cream, lollies and sorbets	Post-Year 2	The recipes of 15 ice cream products including sticks, splits and ice cream tubs have been reformulated. The sugar content across the products has reduced from 16g to 37.4g sugar/100g before reformulation, compared with 14.2g to 29.6g sugar/100g after reformulation. This has removed the equivalent of 21 million teaspoons of sugar from the category.
Morning goods	Between Year 1 and Year 2	The recipes of 3 pastry products have been reformulated, reducing the sugar content of the Croissant from 6.7g to 6.4g sugar/100g, the sugar content of the Pain Au Chocolate from 11.4g to 9.8g sugar/100g and reducing the sugar content of the Pain Aux Raisin from 20.3g to 16.1g sugar/100g.
Puddings	Between Year 1 and Year 2	The recipes of both the multipack (2 x 80g) and sharing (400g) profiteroles, tiramisu desserts, apple pies and mince pies have been reformulated, reducing the sugar content across the range from 17.9g to 29.5g sugar/100g before reformulation, compared with 15.6g to 26.7g sugar/100g after reformulation.
	Post-Year 2	The recipes of 7 desserts including 2 Christmas Puddings and a Fresh Chilled Custard have been reformulated, reducing the sugar content across the products from 10.1g to 43.6g sugar/100g before reformulation, compared with 9.2g to 36.1g sugar/100g after reformulation.
Sweet confectionery	Between Year 1 and Year 2	The recipes of Fruit Pastilles, Midget Gems and Wine Gums have been reformulated reducing the sugar content from 51.4g to 58.1g sugar/100g before reformulation, compared with 46.2g to 47.7g sugar/100g after reformulation. This removes the equivalent of over 3 million teaspoons of sugar across the 3 products.

Category	Timeframe	Details
Yogurts and fromage frais	Post-Year 2	Five yogurts including 4 from the Irresistible range have been reformulated, reducing the sugar content across the products from 11.7g to 15.4g sugar/100g before reformulation, compared with 10.4g to 13.4g sugar/100g after reformulation. The Blueberry Protein Yogurt was also reformulated reducing the portion size from 200g to 150g and the sugar content from 11.1g to 7.7g sugar/100g.

## 10. Costa Coffee

Category	Timeframe	Details
Biscuits	Between Year 1 and Year 2	In August 2018, through a combination of recipe reformulation and a reduction in portion size, sugar reduction was achieved in Shortbread Bites. The sugar content reduced by 23% from 2.2g to 1.7g sugar/portion (one Shortbread Bite).
Cakes	Post-Year 2	In February 2019, Costa introduced a new Gluten Free Vegan Fruity Flapjack to replace the Fruity Flapjack and the Nutty Flapjack. The portion size and the amount of sweetened dried cranberries used in the new recipe were reduced. This resulted in the sugar content reducing by 25% from 26.5g to 20g sugar/portion.

## 11. Danone

Category	Timeframe	Details
Yogurts and fromage frais	Between Year 1 and Year 2	In 2018, 6 Activia Core Fruit Yogurts were reformulated (Strawberry, Blueberry, Fig, Prune, Mango, Rhubarb). The sugar content ranged from 12g to 13.5g sugar/100g before reformulation, compared with 10.4g to 11g sugar/100g after reformulation (sugar reduction from 8% to 23%). Activia Grains & Seeds Walnut & Oat was also reformulated, the sugar content reducing from 14.5g to 13.3g sugar/100g.

## 12. DE-VAU-GE

Category	Timeframe	Details
Breakfast cereals	Between Year 1 and Year 2	Two Harvest Morn Breakfast Cereals were reformulated. In September 2017, the sugar content of Cornflakes reduced from 7.1g to 6.3g sugar/100g. In April 2018 the sugar content of Choco Pillows reduced from 31g to 24g sugar/100g.
	Post-Year 2	In April 2019 De-Vau-Ge are scheduled to launch a reformulated Craze Milk Chocolate Breakfast Cereal, reducing the sugar content from 27g to 23g sugar/100g and the calorie content from 435 kcal to 418 kcal/100g.

## 13. Domino's

Category	Timeframe	Details
Biscuits	Between Year 1 and Year 2	The Domino's Cookie was reformulated, reducing the sugar content from 41.1g to 36.6g sugar/100g (an 11% sugar reduction).

Category	Timeframe	Details
Cakes	Between Year 1 and Year 2	In January 2018 the chocolate brownie was delisted to shift sales towards lower sugar options.
Puddings	Between Year 1 and Year 2	In January 2018 the Chocolate Melt was delisted to shift sales towards lower sugar options within the business's dessert category. No new prepared desserts were launched in 2018.

#### 14. EPIC dairy

Category	Timeframe	Details
Yogurts and fromage frais	Between Year 1 and Year 2	Four flavours of Suckies Pouch Yogurts were reformulated (Strawberry, Peach and Apricot, Raspberry and Blueberry). Sugar reduction was achieved through recipe reformulation reducing the fruit content from 11.5% to 10% achieving sugar reduction across the 4 flavours from 8.3g to 9.1g sugar/100g before reformulation compared with 7.2g to 8.5g sugar/100g after reformulation.

#### 15. Fage UK

Category	Timeframe	Details
Yogurts and fromage frais	Between Year 1 and Year 2	From late 2017 to March 2018, 5 Total Fage 0% Yogurts were reformulated. The sugar content of the 4 fruit yogurts (Raspberry, Strawberry, Blueberry and Cherry) ranged from 11.7g sugar/100g to 12.5g sugar/100g before reformulation, to 7.6g sugar/100g for all 4 products after reformulation. The sugar content of the Total Fage 0% Honey Yogurt was also reduced from 18.8g/100g before reformulation to 18g sugar/100g after reformulation.

#### 16. Ferrero UK

Category	Timeframe	Details
Chocolate confectionery	Between Year 1 and Year 2	In 2017/18 the average portion size of Ferrero individually wrapped chocolate confectionery was reduced from 96.9 kcals to 96.4 kcal/serving which equates to a 0.5 kcal reduction in SWA calories per single serve.

#### 17. Froneri

Category	Timeframe	Details
Ice cream, lollies and sorbets	Between Year 1 and Year 2	The sugar content of Nestlé's Smarties Midi Cone reduced from 29g to 26.3g sugar/100g, and the portion size of Toffee Crumble Ice Cream reduced from 70ml to 60ml, a 14% reduction in calories/serving. In February 2018, Rowntree's Watermelon Lolly, with a sugar level lower than the 20% reduction guideline, was launched containing 16g sugar/100g and 61 kcals/serving.
	Post-Year 2	Reformulation of Kelly's Clotted Cream Ice Cream achieved a larger sugar reduction from 20.1g to 17.1g sugar/100g, rather than to 17.7g, as initially anticipated in the year 1 report. This along with reformulation across the whole take home Kelly's

Category	Timeframe	Details
		range will result in 305 tonnes less sugar being sold. Reformulation of Nobbly Bobbly Lolly <sup>22</sup> over 2 years resulted in the sugar content reducing from 31.3g to 27.8g sugar/100g. Nestlé has achieved a 19% reduction in its SWA sugar per 100g from baseline, which has decreased to 18.6g sugar per 100g. In February 2019, Rowntrees Strawberry Lolly will be launched with 16g sugar/100g and 61 kcals/serving building on the success of watermelon in 2018 in lowering the overall average sugar content of the range.

## 18. General Mills

Category	Timeframe	Details
Ice cream, lollies and sorbets	Post-Year 2	Häagen-Dazs launched 2 new gelato products; Chocolate Drizzle and Caramel Swirl 150 Calorie Mini Cups. The Chocolate Drizzle variety contains 15.5g sugar/100g and the Caramel Swirl variety contains 16.5g sugar/100g, which is 30% less sugar than comparable Häagen-Dazs products. Both Mini Cups have less than 150 calories per portion.

## 19. Greggs

Category	Timeframe	Details
Biscuits	Between Year 1 and Year 2	In November 2017, reformulation of 3 Greggs Cookies (Milk Chocolate, White Chocolate, Triple Chocolate) was achieved. The sugar content ranged from 38.8g to 39.9g sugar/100g before reformulation compared with 27.1g to 28.0g sugar/100g after reformulation. This resulted in a sugar reduction of between 28% and 30%.

## 20. Guylian UK Ltd

Category	Timeframe	Details
Chocolate confectionery	Between Year 1 and Year 2	Reformulation of La Trufflina and Perlina resulted in the sugar content reducing from 44g to 37g sugar/100g and from 49g to 41g sugar/100g respectively (both achieving a 16% sugar reduction).
	Post-Year 2	Portion size reduction has been completed in 4 chocolate bars; reducing from 1 100g bar to 4 separate 25g bars. Reformulation of the recipes has achieved sugar reduction in 3 of these products. The sugar content of dark chocolate no sugar added bars reduced from 1g to 0g sugar/100g and the sugar content of Hazelnut and Milk Chocolate bars reduced from 47g to 45g sugar/100g and from 54g to 50g sugar/100g respectively.

<sup>22</sup> Reformulation figures provided for the Nobbly Bobbly Lolly published in the year 1 sugar progress report were inaccurate.

## 21. Haribo Dunhills (Pontefract) PLC

Category	Timeframe	Details
Sweet confectionery	Post-Year 2	In 2019 Haribo will extend its Fruitilicious 30% Less Sugar offer into multipacks. These 16g minibags contain 45 kcal/serving.

## 22. J Sainsbury plc

Category	Timeframe	Details
Biscuits	Between Year 1 and Year 2	From December 2017 to February 2018 6 higher selling biscuit products were reformulated. The sugar content across the products reduced from 18.9g to 33.0g sugar/100g before reformulation, compared with 14.9g to 30.2g sugar/100g after reformulation; achieving an average 11% sugar reduction.
Cakes	Post-Year 2	In February 2019 the Free From Chocolate Brownie was reformulated. The sugar content reduced from 33.5g to 28.4g sugar/100g, a 15% reduction in sugar. In addition, the portion size of the food to go and café product was reduced from 75g to 65g and the portion size of the individual item in the 4 pack was reduced from 35g to 33g.
Ice cream, lollies and sorbet	Between Year 1 and Year 2	In May 2018 3 reformulated ice cream products in 2L tubs were relaunched. The sugar content reduced from 19.4g to 24.7g sugar/100g before reformulation, compared with 18.0g to 18.8g sugar/100g after reformulation. One product was also delisted.
Puddings	Between Year 1 and Year 2	In November 2017 ten products in the single-serve chilled pot dessert range were reformulated achieving a 10% reduction in sugar per 100g. The sugar content across the range reduced from 15.7g to 23.4g sugar/100g before reformulation, compared with 12.6g to 22.8g sugar/100g after reformulation.
	Post-Year 2	In October 2018 Sainsbury's renewed its range of frozen desserts, 21 products were delisted, and 9 products were reformulated; the sugar content ranged from 13.9g to 30.9g sugar/100g before reformulation, compared with 11.1g to 25.6g sugar/100g after reformulation. For Christmas 2018, the recipe of the 6 Pack Deep Filled Mince Pies was reformulated reducing the sugar content from 27.9g to 24.0g sugar/100g; a 14% sugar reduction.
SDIL- squash, mixers and juice drinks	Between Year 1 and Year 2	Between September 2017 and March 2018 400 tonnes of sugar was removed from ambient squash and mixers. This was achieved through product reformulation and delisting 30 products. In January 2018 reformulation was completed in 14 juice drinks, 3 new products were introduced, and 8 products were delisted. This equates to the removal of 557 tonnes of sugar from 1L and 2L ambient and chilled products from the concentrate juice drink range.
Sweet confectionery	Post-Year 2	In October 2018, 5 key selling confectionery lines were reformulated. The sugar content across the range reduced from 54.9g to 70.9g sugar/100g before reformulation, compared with 45.3g to 64.1g sugar/100g after reformulation; achieving an average 13% sugar reduction.

### 23. Kerry Foods

Category	Timeframe	Details
Yogurts and fromage frais	Between Year 1 and Year 2	The Yollies Yogurt Lolly has been reformulated; the sugar content was reduced from 12.8g to 12.1g sugar/100g and the calorie content was reduced from 180 kcal to 173 kcal/100g. This reduction was achieved by lowering the total sugars in the recipe and modifying natural flavourings to minimise the impact on the product taste profile.

### 24. KFC UK

Category	Timeframe	Details
Ice cream, lollies and sorbets	Between Year 1 and Year 2	In June 2018 KFC reformulated their ice cream base for 7 products achieving between 11 to 15% sugar reduction. Strawberry Sundae reduced from 23.3g to 19.8g sugar/100g and Chocolate and Caramel Kream Balls reduced from 28.1g and 28.2g sugar/100g to 25g and 25.2g sugar/100g respectively.

### 25. Lactalis Nestlé Chilled Dairy UK

Category	Timeframe	Details
Puddings	Between Year 1 and Year 2	In August 2018, Milkybar Little Treats (6x60g) were reformulated, reducing the sugar content from 21.8g to 18.3g sugar/100g. This delivered a 13% sugar reduction and a 3% reduction in calories per portion.
	Post-Year 2	In November 2018, Nesquik Chocolate Desserts (6x60g) were reformulated. The sugar content reduced from 22.7g to 20.4g/100g; delivering a 10% sugar reduction and a 5% reduction in calories per portion.
Yogurts and fromage frais	Between Year 1 and Year 2	In March 2018 added sugar was removed from Ski Smooth Strawberry and Raspberry Yogurts (4x120g). The sugar content reduced from 12.6g to 11.3g sugar/ 100g; delivering a 10% sugar reduction and a 7% reduction in calories per portion.
	Post-Year 2	In February 2019, added sugar was removed from Rachel's Luscious and Greek Fruit Yogurts, achieving a 10% reduction in sugar across the range. Reformulation included removing added sugar from Rachels Luscious 4 Fruits Yogurts (4x110g) reducing the sugar content from 13.9g to 12.5g sugar/100g.

### 26. Lidl

Category	Timeframe	Details
Biscuits	Between Year 1 and Year 2	Four Tower Gate Biscuits were reformulated reducing the sugar content across the range from 16g to 29.7g sugar/100g before reformulation, compared with 15.5g to 27.4g sugar/100g after reformulation. Three Baked Cookies (Double Chocolate, Triple Chocolate, White Chocolate) were also reformulated reducing the sugar content from 40.4g to 42.8g sugar/100g before reformulation, compared with 34.3g to 37.7g sugar/100g after reformulation.

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Category	Timeframe	Details
	Post-Year 2	In November 2018 reformulation of Nice Biscuits and Shortcakes resulted in the sugar content reducing from 23.2g to 16.3 sugar/100g and from 19.4g to 16.9g sugar/100g respectively. Pack size reduction was completed in Caramel Biscuit Bars 5 pack from 290g to 200g.
Breakfast cereals <sup>23</sup>	Between Year 1 and Year 2	Reformulation of Honey Peanut Flakes and Cookie Cereal resulted in the sugar content reducing from 25.0g to 21.9g sugar/100g and from 23.6g to 21.9g sugar/100g respectively.
	Post-Year 2	In September 2018 Crownfield Rice Krispies were reformulated, the sugar content reduced from 9g to 8.9g sugar/100g and the calorie content reduced from 393 kcal to 387 kcals/100g.
Cakes	Between Year 1 and Year 2	In February 2018 a reduction in the amount of invert sugar syrup used in In Store Bakery Toffee Yum Yums reduced the sugar content from 22.9g to 21.8g sugar/100g, achieving a 4.8% sugar reduction.
	Post-Year 2	In November 2018 reduction in the amount of added sugar used in Favorina Finest Marzipan Stollen resulted in the sugar content reducing from 32.2g to 29.9g sugar/100g.
Chocolate confectionery	Post-Year 2	Pack size reduction has been completed in 2 bars: Chocolate Peanut Bars 6 pack from 300g to 228g and Choco & Caramel Bars 6 pack from 270g to 228g.
Ice cream, lollies and sorbets	Between Year 1 and Year 2	In April 2018 the portion size of Tornado Ice Lollies was reduced from 7x70ml to 5x50ml. The recipe was also reformulated, reducing the sugar content from 21g to 16.2g sugar/100g, achieving a 22.9% sugar reduction in sugar/100g.
Morning goods	Between Year 1 and Year 2	The recipes of 8 morning goods were reformulated (Maple & Pecan Plait, Sliced Fruit Loaf, Chocolate Twist, Lemon & Raisin Pancakes, Crumpets, Pain Au Chocolat, Chocolate-Hazelnut Croissant, Salted Caramel Sweet Bun and Lemon Drizzle Sweet Bun <sup>24</sup> ). This reduced the sugar content across the products from 3.5g to 27.7g sugar/100g before reformulation, compared with 3.3g to 22.1g sugar/100g after reformulation. Portion size reduction of Pain Aux Raisin was also achieved reducing from 106g to 97g. Pack size reduction has been completed for Croissants from 10 to 8 pack.
Puddings	Between Year 1 and Year 2	Reformulation of 7 desserts (Banoffee Pie, 2 Cheesecakes and 4 Double Decadence Desserts) resulted in the sugar content across the products reducing from 21.6g to 35.2g sugar/100g before reformulation compared with 19.5g to 29.9g sugar/100g after reformulation. The pack size of Creamed Rice Pudding was also reduced from 624g to 400g.

<sup>23</sup> The planned reformulation of Malt Wheaties, which was included in the year 1 report, did not reach stores. The actual sugar reduction achieved in this product was from 14.5g to 12.4g per 100g (not 12.4g to 10.9g per 100g) which came into stores in year 2

<sup>24</sup> Reformulation figures provided for the Lemon Drizzle Sweet Bun published in the year 1 sugar progress report was not achieved in the timeframe for the year 1 report and so have been included as a reformulation case study achieved in year 2

Category	Timeframe	Details
Sweet confectionery	Between Year 1 and Year 2	In August 2018 3 sweet confectionery products were reformulated. The sugar content of Mint Humbugs reduced from 69.9g to 59.1g sugar/100g, the sugar content of Pink & White Mini Marshmallows reduced from 69.7g to 57.0g sugar/100g and the sugar content of Mint Assortment reduced from 65.7g to 58.9g sugar/100g.
Sweet spreads and sauces	Between Year 1 and Year 2	In March 2018 both Smooth Peanut Butter and Crunchy Peanut Butter were reformulated <sup>25</sup> reducing the sugar content from 10.6g to 6.6g sugar/100g (SWA reduction of 18.8% sugar/100g) and from 7.6g to 6.7g sugar/100g (SWA reduction of 7.1% sugar/100g), respectively.
Yogurts and fromage frais	Between Year 1 and Year 2	In June 2018 reformulation of the recipe to remove invert sugar syrup from Milbona's Fromage Frais, 6x50g lead to an increase in the percentage of fromage frais and reduced the sugar content from 12g to 10g sugar/100g, achieving a SWA reduction of 0.8% sugar/100g.
	Post-Year 2	In December 2018 removal of added sugar from the recipe of 4 Creamy Mild Yogurts with Fruit (Cherry, Strawberry, Peach & Passionfruit, Raspberry) resulted in the sugar content across the products reducing from 14.6g to 15.2g sugar/100g before reformulation, compared with 11.8g to 12.3g sugar/100g after reformulation. In January 2019 the sugar content of Fromage Frais Fruit Tubes was also reduced from 13.9g to 12g sugar/100g.

## 27. Lucozade Ribena Suntory

Category	Timeframe	Details
Soft drinks	Between Year 1 and Year 2	Eight soft drinks were reformulated. Three Ribena products (Concentrated, Cartons, Ready to Drink) reduced from 10g to 4.6g sugar/100ml, a 49% to 51% reduction in kcals/serving. Orangina reduced from 10g to 4.3g sugar/100ml and V Energy reduced from 11g to 4.5g sugar/100ml. The sugar content of 3 Lucozade Energy drinks (Cherry, Brazilian, Citrus Clear) ranged from 12g to 13g/100ml before reformulation compared with 4.3g to 4.5g/100ml after reformulation.

## 28. Mars Wrigley Confectionery UK

Category	Timeframe	Details
Chocolate confectionery	Post-Year 2	In January 2019 Mars Wrigley launched a new Mars bar "MARS More Protein" that has 40% less sugar than the standard Mars bar (59.9g sugar/100g compared with 35.7g sugar/100g) and a new Snickers bar "SNICKERS More Protein" with 33% less sugar than the standard product (44.9g sugar/100g compared with 30g sugar/100g). Both products provide less than 200kcal per serving.

<sup>25</sup> Reformulation figures published in the year 1 sugar progress report for the Smooth and Crunchy Peanut Butter were inaccurate. The figures provided here highlight the reformulation which has been achieved.

## 29. McDonalds

Category	Timeframe	Details
Biscuits	Post-Year 2	In January 2019 the Triple Chocolate Cookie was reformulated achieving a 22% sugar reduction. The sugar content reduced from 37g to 28.7g sugar/100g and the calorie content reduced from 359 kcal to 321 kcal/portion, equating to an 11% reduction in calories/portion.
Cakes	Between Year 1 and Year 2	In February 2018 through reformulation the sugar content of Blueberry Muffin reduced from 28g to 25.6g sugar/100g; an 8.6% reduction in sugar/100g.
	Post-Year 2	In January 2019, further reformulation of the Blueberry Muffin reduced the sugar content from 25.6g to 24g sugar/100g. In addition, the portion size was also reduced from 125g to 115g. This achieved an overall sugar reduction of 12.5% per portion.
Ice cream, lollies and sorbet	Between Year 1 and Year 2	From June 2018 the amount of ice cream and toppings used across the McFlurrys range was reduced, meaning the overall portion size was reduced and the sugar content for each flavour reduced by approximately 5g sugar/portion. For example, the portion size of Cadbury Dairy Milk McFlurry reduced from 185g to 163g/portion resulting in the calories per portion reducing from 332 kcal to 292 kcal/portion
Puddings	Between Year 1 and Year 2	In June 2018 the Apple Pie recipe was reformulated achieving a 15.8% sugar reduction with levels reducing from 13.3g to 11.2g sugar/100g.
Sweet spreads and sauces	Between Year 1 and Year 2	In February 2018 the portion size of Pancake Syrup was reduced from 55g to 40g which achieved a sugar reduction of 10g/portion and a 28% reduction in calories/portion.

## 30. Mitchells & Butlers

Category	Timeframe	Details
Ice cream, lollies and sorbets	Between Year 1 and Year 2	In Spring 2018 Toby Carvery's Ice Cream Dessert was reformulated, reducing the sugar content from 30g to 24g sugar/serving.
Puddings	Between Year 1 and Year 2	In Spring 2018 the sugar content of 2 Harvester desserts were reduced. The sugar content of Build Your Own Cookie Pizza reduced from 67g to 53g sugar/serving and the sugar content of Chocolate Fudge Cake Plated Dessert reduced from 130g to 102g/serving. The sugar content of Toby Carvery Apple Crumble Plated Dessert also reduced from 35g to 13g/serving.

## 31. Morrisons Ltd

Category	Timeframe	Details
Biscuits	Post-Year 2	The recipes of 4 in-store bakery cookies were reformulated (Chocolate Chip, Double Chocolate, White Chocolate, Belgian Chocolate, Salted Caramel), reducing the sugar content across the products from 37.1g to 43.6g sugar/100g before reformulation compared with 36.4g to 41.3g sugar/100g after reformulation. This achieved a 2% reduction in SWA sugar/100g.
Cakes	Post-Year 2	The recipes of 6 in-store bakery doughnuts were reformulated (Apple, Custard, Raspberry, Strawberry, Lemon, Salted

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		Caramel), reducing the sugar content across the products from 10.8g to 17g sugar/100g before reformulation, compared with 10.3g to 15.8g sugar/100g after reformulation. Reducing the sugar content of the base dough recipe achieved a 2% reduction in SWA sugar/100g.
Sweet confectionery	Post-Year 2	In January 2019 4 sugar free variants of boiled sweets were introduced helping to shift consumer purchasing towards lower sugar products. The sugar free variants have substantially lower sugar levels when compared with the standard product e.g. Sugar Free Rhubarb & Custard contains 0.2g sugar/100g compared with 71.3g sugar/100g in the standard variant.
Yogurts and fromage frais	Post-Year 2	Three low-fat yogurts were reformulated reducing the sugar content across the products from 12.5g to 13.5g sugar/100g before reformulation, compared with 10.2g to 10.3g sugar/100g after reformulation.

### 32. Muller UK & Ireland

Category	Timeframe	Details
Yogurts and fromage frais	Between Year 1 and Year 2	In March 2018, Muller Corner Greek Style Yogurt range was relaunched as Müller Corner Plain The portion size was reduced from 150g to 135g and by removing all added sugar from the yogurt, the total sugar content was reduced from 16.9g to 12.1g sugar/100g (27% sugar reduction).

### 33. Nestlé UK and Ireland

Category	Timeframe	Details
Chocolate confectionery	Between Year 1 and Year 2	In September 2017, Yorkie Pro was launched with 34% less sugar and 25 fewer calories than a standard Yorkie. In April 2018, using Nestlé's structured sugar technology, Milkybar Wowsomes White 18g bar was launched containing 36.6g sugar/100g, 30% less sugar than similar chocolate products. In July 2018 the portion size of Lion Milk Duo bars was reduced from 2 x 35g bars to 2 x 30g bars, and the sugar content reduced from 50.4g to 49.8g/100g.
	Post-Year 2	Milkybar Buttons 12g and Mini Smarties 15g packs were launched, both providing less than 100 kcals/serving. Nestlé applied a 2% sugar reduction to the milk chocolate used in 27 of their Easter Eggs, sugar reduced from 60.8g to 59.6g/100g. The sugar content of Smarties Block was also reduced by 2%, from 59.1g to 57.9g/100g.
Sweet confectionery	Post-Year 2	In February 2019, Nestlé launched Mini Randoms 20g, providing 56.8g sugar/100g and less than 100 kcals/serving.

### 34. PepsiCo

Category	Timeframe	Details
Breakfast cereals	Between Year 1 and Year 2	Five Quaker Oat So Simple products were reformulated. In Original Cuppa Porridge, sugar was reduced from 20.3g to 12g sugar/100g; in 2 Golden Syrup Porridge sachets, sugar reduced from 21.5g to 19g sugar/100g and in 2 Original Porridge Pots (standard and Big), sugar reduced from 21.2g to

		15g sugar/100g. The portion size of Original Cuppa Porridge and both Original Porridge Pots were also reduced.
Soft drinks	Between Year 1 and Year 2	In October 2017 a reformulated 7up, Lemon and Lime Flavoured Soft Drink (330ml) was launched, the sugar content reduced from 11g sugar/100ml before reformulation, compared with 7g sugar/100ml after reformulation. The calories/serving reduced from 135 kcals to 95 kcals/serving.

### 35. Pizza Hut (UK) Limited trading as Pizza Hut Restaurants

Category	Timeframe	Details
Ice cream, lollies and sorbet	Post-Year 2	Pizza Hut Restaurants have reformulated Kids Ice Cream Factory (ice cream mix), reducing the sugar content from 18.8g to 16.9g sugar/100g and calorie content from 148 kcal to 139 kcal/100g. Reformulation started from December 2017 with 5% sugar reduction, followed by a 10% reduction going live in February 2019.
Soft drinks	Between Year 1 and Year 2	From January to April 2018 Pizza Hut Restaurants removed full sugar Pepsi from self-serve drinks (SSD) machines, reducing the volume of full sugar Pepsi sold from 2.8 million litres in 2017 to 87,000 litres in 2018, representing a 97% reduction in sugar consumption in 1 year. In addition, the Tango recipe reformulation to remove all sugar has resulted in the removal of all full sugar drinks from SSD machines.

### 36. Pladis UK

Category	Timeframe	Details
Biscuits	Post-Year 2	The portion size of McVitie's Iced Gems reduced from 25g to 23g, and the portion size of McVitie's Choc Gems and 3 Mini products (Gingerbread, Chocolate Digestives and Penguins) all reduced from 25g to 19g. The average sugar content per serving reduced by 19%; ranging from 7.5g to 12.9g/serving, to 5.7g to 11.9g/serving. The calorie content across the products reduced from 100 to 124 kcals/serving, to 88 to 94 kcals/serving.

### 37. Premier Foods

Category	Timeframe	Details
Cakes	Between Year 1 and Year 2	In January 2018 reformulation of Mr Kipling Winter Whirls reduced the sugar content from 28.6g to 26.5g sugar/100g. In August 2018 reformulation of Mr Kipling Lemon Whirls reduced the sugar content from 30.7g to 29.1g sugar/100g. Annually 6 tonnes of sugar have been removed from the UK diet.
	Post-Year 2	In January 2019 30% reduced sugar Angel Slices were launched reducing the sugar content from 39.0g to 25.1g sugar/100g. The sugar reduction is achieved by reducing sugar in the batter and mallow as well as removing the icing topping. The portion size was reduced from 33g to 24g resulting in 28% calorie reduction per slice.
Puddings	Between Year 1 and Year 2	In July 2018 Mr Kipling Deep Filled Mince Pies were reformulated. Existing ingredients were rebalanced reducing the overall sugar content by 9.6% from 32.2g to 29.1g

		sugar/100g. Annually 74 tonnes of sugar have been removed from the UK diet.
	Post-Year 2	In February 2019 reformulation of both the Strawberry and Banana Ambrosia Flavoured Custards (150g) reduced the sugar content from 12.3g and 12.4g sugar/100g respectively to 8g sugar/100g for both flavours. The calorie content for both products also reduced from 102 kcal/100g (Strawberry) and 105 kcal/100g (Banana) to 88 kcal/100g. Annually 22 tonnes of sugar will be removed from the UK diet.

### 38. PVM group

Category	Timeframe	Details
Sweet confectionery	Between Year 1 and Year 2	Two flavours of 30% Less Sugar Fruittella Chewy products Strawberry (both the £1 pack and 99 calorie pack) and Summer Fruits (99 calorie pack) were launched to sit alongside the full sugar product to offer consumers choice. The products were reformulated by replacing sugar with inulin and additional fruit juice. 30% less sugar Fruittella Gummies have also been launched.

### 39. Sodexo

Category	Timeframe	Details
Biscuits	Post-Year 2	Sugar reduction was achieved in 19 products. The percentage sugar reduction achieved ranged from 3.7% to 28.9%, with the sugar content across the range reducing from 11.6g to 36.8g sugar/100g before reformulation, compared with 10.6g to 35.3g sugar/100g after reformulation. Portion size reduction from 1% to 19% was completed in 14 of the 19 products.
Breakfast cereals	Post-Year 2	Granola Grainy Cereal was reformulated, reducing the sugar content from 15.8g to 14.4g sugar/100g. This achieved an 8.9% reduction in sugar per 100g.
Cakes	Post-Year 2	Sugar reduction was achieved in 119 products. The percentage sugar reduction achieved varied between 1.3% to 37.7%, with the sugar content across the range reducing from 5.2g to 46.1g sugar/100g before reformulation, compared with 4.4g to 42.2g sugar/100g after reformulation. Portion size reduction from 1% to 25% was completed in 111 out of 121 products in the range.
Morning goods	Post-Year 2	Sugar reduction was achieved in 19 morning goods. The percentage sugar reduction achieved was from 2.9% to 30.9% per 100g; with the sugar content across the range reducing from 5.8g to 41.4g sugar/100g before reformulation, compared with 5.3g to 34.5g sugar/100g after reformulation. Portion size reduction from 1% to 4% was completed in 10 of the 19 products in the range.
Puddings	Post-Year 2	Sugar reduction was achieved in 183 products. The percentage sugar reduction achieved was from 0.4% to 53.9%, with the sugar content across the range reducing from 6.4g to 47.2g sugar/100g before reformulation, compared with 5.3g to 45.1g sugar/100g after reformulation. Portion size reduction

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		between 1% and 35% was completed in 160 of the 183 reformulated products.
Yogurts and fromage frais	Post-Year 2	Both sugar reduction and portion size reduction were achieved in 4 yogurt products. The percentage sugar reduction achieved was from 2.6% to 38.6% per 100g, with the sugar content across the products reducing from 15.2g to 60.6g sugar/100g before reformulation, compared with 14.1g to 59g sugar/100g after reformulation.

#### 40. Soreen – Samworth Brothers

Category	Timeframe	Details
Cakes	Post-Year 2	Soreen reduced the sugar content of the single serve product from a SWA/100g of 19.2g sugar/100g to 18.9g sugar/100g. The single serve product increased as a % of total sales (35% to 40.1%) for the last four months of 2018.

#### 41. SPAR UK

Category	Timeframe	Details
Biscuits	Post-Year 2	Three varieties of SPAR Biscuits have been reformulated achieving a SWA reduction of 3.2% sugar/100g. The sugar content of Fruit Shortcake reduced from 25.6g to 24.5g sugar/100g, the sugar content of the Ginger Nut reduced from 33.6g to 31.4g sugar/100g and the sugar content of the Bourbon Cream reduced from 30.3g to 28.5g sugar/100g.
Cakes	Post-Year 2	Both the Chocolate Chip and Toffee Flavour Muffins have been reformulated achieving a SWA reduction of 0.7% sugar/100g. Through recipe reformulation the sugar content of the 2 products reduced from 30g to 29.5g sugar/100g and from 30.5g to 29.5g sugar/100g respectively.
Ice cream, lollies and sorbets	Post-Year 2	Spar have reformulated both the Choc Ice and Rocket Lolly Ice Creams. The sugar content in these 2 products has reduced from 21.3g to 18.8g sugar/100g and from 16g to 14.8g sugar/100g respectively. These products are scheduled to launch in May 2019.

#### 42. Starbucks

Category	Timeframe	Details
Biscuits	Between Year 1 and Year 2	In January 2018, through a combination of reformulation and portion size reduction, a sugar reduction of 20% sugar/100g was achieved in the Granola Bar. After reformulation the portion size reduced from 85g to 70g and the sugar content reduced from 32.6g to 26g sugar/100g.
Cakes	Between Year 1 and Year 2	In July 2018, through a combination of recipe reformulation and portion size reduction, 20% sugar reduction was achieved in 3 Starbucks Muffins. Lemon Muffin reduced from 32.7g to 26.2g sugar/100g, Blueberry Muffin reduced from 26.3g to 22.6g sugar/100g and Chocolate Muffin reduced from 30.2g to 25.4g sugar/100g.

### 43. Tesco Food Stores Ltd

Category	Timeframe	Details
Biscuits	Post-Year 2	In January 2019, the recipe of Bourbon Cream Biscuits was reformulated by addressing the sugar and flour balance, which has resulted in the sugar content reducing from 29.6g to 25.2g sugar/100g.
Breakfast cereals	Between Year 1 and Year 2	Two flavours of Tesco Chocolate Pillow Breakfast Cereal (375g) and Tesco Cornflakes (500g and 750g) have been reformulated to reduce the sugar content, achieving a SWA reduction of 2.6g sugar/100g across these products. The sugar content of Cornflakes reduced from 7.1g to 6.6g sugar/100g.
	Post-Year 2	The recipes of 3 Instant Oat Porridge Pots 55g (Golden Syrup, Apple & Blueberry and Berry & Cherry) and 3 Crisp cereals 500g (Four Nut, Strawberry and Chocolate) were reformulated achieving a SWA reduction of 1.9g sugar/100g across these products. For example, the sugar content of Chocolate Crisp reduced from 19g to 15.5g sugar/100g and Apple & Blueberry Instant Oats reduced from 7.3g to 5.5g sugar/100g.
Cakes	Between Year 1 and Year 2	The recipes of 2 Fairy Cake products (iced and uniced) were reformulated achieving a SWA reduction of 7.4g sugar/100g across the 2 products. The recipes of 4 pack muffins (Belgian Chocolate, Triple Chocolate and Blueberry) and in-store bakery Doughnuts (Jam, Custard and Plain Ring) were also reformulated achieving SWA reductions of 9.4g sugar/100g and 3g sugar/100g across the 2 product ranges respectively.
Ice cream, lollies and sorbets	Between Year 1 and Year 2	In March 2018 the Soft Scoop ice cream range (Vanilla, Chocolate and Raspberry Ripple) was reformulated to reduce the added sugar content, achieving a SWA reduction of 2.7g sugar/100g across the range. The sugar content of the chocolate flavour reduced from 19.2g to 16g sugar/100g.
Morning goods	Between Year 1 and Year 2	In January 2018, Sultana Scones were reformulated, reducing the sugar content from 24.5g to 17g sugar/100g, achieving a 31% sugar reduction. In September 2017, All Butter Croissants were reformulated, reducing the sugar content from 7g to 6g/100g, achieving a 14% sugar reduction.
Puddings	Between Year 1 and Year 2	The recipes of the Core Cheesecake range (Vanilla, Lemon and Raspberry) have been reformulated. Sugar has been removed from the batter and sauce, and the quantity of sauce has also been reduced, achieving a SWA reduction of 1.4g sugar/100g across the range. Apple Pie and Rhubarb Pie have also been reformulated, achieving a SWA reduction of 1.8g sugar/100g across the 2 products.
	Post-Year 2	Reformulation of the Chocolate and Syrup flavoured Ambient Sponge Pudding (2 x 110g) recipes reduced the added sugar content by 30%, achieving a SWA reduction of 15.2g sugar/100g across the range. The sugar content of the Chocolate Pudding reduced from 47.2g to 29.8g sugar/100g.
Sweet confectionery	Between Year 1 and Year 2	In September 2018, over half of Tesco's own label sweet range (22 products) has been reformulated, achieving an average sugar reduction of 8.7% and a SWA reduction of 6.9g sugar/100g across the range. For example, Miss Molly's Midget Gems reduced from 55.2g to 44.8g sugar/100g.

Sugar reduction: Report on progress towards the 20% reduction

Category	Timeframe	Details
Sweet spreads and sauces	Post-Year 2	In December 2018, the second stage of reformulation of the Tesco core and entry level chocolate spread range has been completed, achieving a SWA reduction of 4.8g sugar/100g across the range. The sugar content of the Chocolate and Hazelnut Spread has reduced from 51g to 48g sugar/100g.
Yogurts and fromage frais	Between Year 1 and Year 2	The recipes of Creamfields Split Pot Yogurts (Fruit and Confectionery) were reformulated, reducing the added sugar content and achieving a SWA reduction of 3.7g sugar/100g across the 2 ranges. The recipe of Creamfields Strawberry and Raspberry Fromage Frai was also reformulated reducing the sugar content from 9.6g to 7.6g sugar/100g.

#### 44. The Restaurant Group plc

Category	Timeframe	Details
Morning goods	Post-Year 2	In February 2019 the supplier of the buttermilk pancake mix, used in Chiquito's and in The Restaurant Group concessions, reformulated the recipe, reducing the sugar content from 31.3g to 25.2g sugar/100g.
Puddings	Post-Year 2	The recipe of the Coast 2 Coast Chocolate Fudge Cake was reformulated reducing the sugar content from 38.4g to 37.8g sugar/100g. The portion size was reduced from 189g to 145g reducing calories from 633 kcal/portion to 519 kcal/portion.
Sweet spreads and sauces	Between Year 1 and Year 2	In August 2018 a milk chocolate sauce (the highest volume bespoke sauce in the business), used in Frankie and Benny's and Chiquito, was reformulated reducing the sugar content from 33.4g to 23.1g sugar/100g. This equates to the removal of just over 1 tonne of sugar since the product was reformulated.

#### 45. Unilever UK

Category	Timeframe	Details
Ice cream, lollies and sorbets	Between Year 1 and Year 2	In January 2018 4 products in the Breyers Delights Ice Cream range were launched, with 2 additional products launching in July 2018. The sugar content ranges from 4.3g to 5.5g sugar/100ml. The range has 68-75% less sugar and 62-69% less calories than similar ice cream products.
	Post-Year 2	In February 2019, reformulation of Cornetto Classico and Cornetto Mint (sold for out of home use) reduced the sugar content from 13g to 11g sugar/100ml and 14g to 11g sugar/100ml, respectively. The portion size of both products was reduced from 125ml to 120ml. In October 2018 3 new flavours of Breyers Delights Ice Cream were launched, containing 69-72% less sugar and 61-65% less calories than similar ice cream products.

## 46. Waitrose & Partners

Category	Timeframe	Details
Breakfast cereals	Between Year 1 and Year 2	Between January and March 2018, 9 breakfast cereals were reformulated reducing the average sugar content by 15%; which achieved a SWA reduction of 3.7g sugar/100g. The sugar content of the cereal products reduced from 7.1g to 29.7g sugar/100g before reformulation compared with 6.6g to 23.6g sugar/100g after reformulation.
Morning goods	Between Year 1 and Year 2	In February 2018 5 hot cross bun lines were reformulated by reducing both the portion size and sugar content of the recipes. This achieved an average sugar reduction of 8% and a SWA reduction of 1.5g sugar/100g. The sugar content ranged from 14g to 23.4g sugar/100g before reformulation compared with 13g to 22.2g sugar/100g after reformulation.
Puddings	Between Year 1 and Year 2	In Spring 2018, 4 chilled desserts (2 cheesecakes [3 x 100g] and 2 surprise puddings) were reformulated reducing the average sugar content by 18%. The sugar content ranged from 19.5g to 25.9g sugar/100g before reformulation compared with 15.5g to 23.7g sugar/100g after reformulation.
	Post-Year 2	In October 2018, 5 own-label mince pies were reformulated, achieving an average sugar reduction of 13% and reducing the sugar SWA by 5g sugar/100g. Reformulation included reducing sugar content of all the recipes and the portion size of 2 products.
Soft drinks	Between Year 1 and Year 2	In Spring 2018, sixteen soft drink lines were reformulated reducing the average sugar content by 31.5%, achieving a SWA reduction of 3g sugar/100ml. The sugar content ranged from 7.3g to 12.8g sugar/100ml before reformulation compared with 4.8g to 7.8g sugar/100g after reformulation.
Sweet spreads and sauces	Post-Year 2	In January 2019, 6 lines of peanut butter were reformulated, including both the 340g and 454g jars of Waitrose Essential Peanut Butter (Smooth and Crunchy). The average sugar reduction was 34.6%; achieving a reduction in the SWA of 2.7g sugar/100g. This was achieved by decreasing the sugar content in each recipe from 2% to 1%.

## 47. Weetabix Ltd

Category	Timeframe	Details
Biscuits	Post-Year 2	In early 2019, reformulation of Alpen Bars reduced the sugar content from 32g to 25g sugar/100g. In addition, Alpen Light Bars have also been reformulated reducing the sugar content from 20.5g to 15.5g sugar/100g this has been accompanied by an increase in fibre across the range.
Breakfast cereals	Between Year 1 and Year 2	Four breakfast cereals were reformulated. The sugar content of Weetabix Original (2017) reduced from 4.4g to 4.2g sugar/100g; Alpen Original Muesli (2017) reduced from 22.4g to 21g; Crispy Minis – Chocolate (2018) reduced from 21g to 18g and Weetos (2018) reduced from 22g to 19g.
	Post-Year 2	In January 2019, 2 breakfast cereals (Crispy Minis – Chocolate and Weetabix Chocolate) were reformulated reducing the sugar content in both cereals from 18g to 17g sugar/100g.

Sugar reduction: Report on progress towards the 20% reduction

Soft drinks	Between Year 1 and Year 2	In January 2018, Weetabix On the Go Breakfast Drinks were reformulated, reducing the sugar content from 7.3g/100ml to 4.9g/100ml.
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#### 48. Whitbread

Category	Timeframe	Details
Ice cream, lollies and sorbets	Between Year 1 and Year 2	The Beefeater Strawberry Frozen Yoghurt Dessert was reformulated. The sugar and calorie content per serving were reduced from 49.5 to 26.9g sugar, and from 257 kcals to 159 kcals, respectively.
	Post-Year 2	To reduce the overall added sugar content within the Beefeater desserts menu, a Gin Fizz Sorbet was introduced. This product has 29g sugar and 140 kcals per serving.
Puddings	Post-Year 2	Two new products have been introduced to the Beefeater desserts menu, both containing less than 300 calories per serving. The Strawberry Yogurt Cheesecake has 23.5g sugar and 223 kcals per serving; the Apple Crisp has 26.1g sugar and 299 kcals per serving.

## References

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- <sup>i</sup> HM Government. Childhood obesity: A plan for action (2016)  
Available from: <https://www.gov.uk/government/publications/childhood-obesity-a-plan-for-action>
- <sup>ii</sup> HM Government. Childhood obesity: a plan for action, chapter 2 (2018)  
Available from: <https://www.gov.uk/government/publications/childhood-obesity-a-plan-for-action-chapter-2>
- <sup>iii</sup> HM Government. Advancing our health: prevention in the 2020s (2019)  
<https://www.gov.uk/government/consultations/advancing-our-health-prevention-in-the-2020s>
- <sup>iv</sup> HM Government. Sugar reduction: achieving the 20% (2017)  
Available from: <https://www.gov.uk/government/publications/sugar-reduction-achieving-the-20>
- <sup>v</sup> HM Government. Sugar reduction: report on first year progress (2018)  
Available from: <https://www.gov.uk/government/publications/sugar-reduction-report-on-first-year-progress>
- <sup>vi</sup> HM Government. Soft Drinks Industry Levy (2018)  
Available from: <https://www.gov.uk/government/publications/soft-drinks-industry-levy/soft-drinks-industry-levy>
- <sup>vii</sup> HM Government. SACN Carbohydrates and health report (2015)  
<https://www.gov.uk/government/publications/sacn-carbohydrates-and-health-report>
- <sup>viii</sup> HM Government. Commercial infant and baby food and drink: evidence review (2019)  
<https://www.gov.uk/government/publications/commercial-infant-and-baby-food-and-drink-evidence-review>
- <sup>ix</sup> HM Government. Salt reduction: targets for 2017 (2017)  
Available from: <https://www.gov.uk/government/publications/salt-reduction-targets-for-2017>
- <sup>x</sup> HM Government. Sugar reduction: achieving the 20% (2017)  
Available from: <https://www.gov.uk/government/publications/sugar-reduction-achieving-the-20>
- <sup>xi</sup> Public Health England. Sugar reduction: report on first year progress.  
Available from: <https://www.gov.uk/government/publications/sugar-reduction-report-on-first-year-progress>
- <sup>xii</sup> HM Government. Childhood obesity: A plan for action (2016)  
Available from: <https://www.gov.uk/government/publications/childhood-obesity-a-plan-for-action>
- <sup>xiii</sup> HM Government. Sugar reduction: report on first year progress (2018)  
Available from: <https://www.gov.uk/government/publications/sugar-reduction-report-on-first-year-progress>
- <sup>xiv</sup> HM Government. Budget 2016 (2016)  
Available from: <https://www.gov.uk/government/topical-events/budget-2016>
- <sup>xv</sup> HM Government. Soft Drinks Industry Levy (2018)  
Available from: <https://www.gov.uk/government/publications/soft-drinks-industry-levy/soft-drinks-industry-levy>
- <sup>xvi</sup> Childhood obesity: a plan for action, chapter 2 (2018)  
<https://www.gov.uk/government/publications/childhood-obesity-a-plan-for-action-chapter-2>
- <sup>xvii</sup> HM Government. Advancing our health: prevention in the 2020s (2019)  
<https://www.gov.uk/government/consultations/advancing-our-health-prevention-in-the-2020s>
- <sup>xviii</sup> HM Government. NDNS: time trend and income analyses for Years 1 to 9 (2019)

Available from: <https://www.gov.uk/government/statistics/ndns-time-trend-and-income-analyses-for-years-1-to-9>

<sup>xix</sup> NHS Digital. National Child Measurement Programme England

Available from: <https://digital.nhs.uk/data-and-information/publications/statistical/national-child-measurement-programme>

<sup>xx</sup> NHS Digital. Health Survey for England 2017– Adult overweight and obesity: National Statistics (2018)

Available from: <https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england/2017>

<sup>xxi</sup> HM Government. Advancing our health: prevention in the 2020s (2019)

<https://www.gov.uk/government/consultations/advancing-our-health-prevention-in-the-2020s>

<sup>xxii</sup> HM Government. Commercial infant and baby food and drink: evidence review (2019)

<https://www.gov.uk/government/publications/commercial-infant-and-baby-food-and-drink-evidence-review>