Public Health England

Protecting and improving the nation's health

Calorie reduction

Technical report: guidelines for industry, 2017 baseline calorie levels and the next steps

September 2020

About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. We do this through world-leading science, research, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. We are an executive agency of the Department of Health and Social Care, and a distinct delivery organisation with operational autonomy. We provide government, local government, the NHS, Parliament, industry and the public with evidence-based professional, scientific and delivery expertise and support.

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Overview

Due to the prevalence of excess weight across the population and the implications this has for people's health and the cost to the NHS, it is crucial that we address the nation's excess calorie consumption. As part of this, the food industry has an important role in helping to make everyday foods that people consume healthier. Therefore, in August 2017, the Department of Health and Social Care (DHSC) commissioned Public Health England (PHE) to develop a voluntary calorie reduction programme, which is one of the key commitments in all chapters of the government's Childhood Obesity Plan. In March 2018, PHE published Calorie Reduction: the scope and ambition for action*.* This set out the evidence on the nation's excess calorie consumption, its impact on health and the part the food industry needs to play in lowering excess calorie intakes. Consequently, all sectors of the food industry were challenged to reduce the calories in product categories that contribute significantly to children's calorie intakes (up to the age of 18) by 20% by 2024.

The reach of the reduction and reformulation programme is universal. If the foods that contribute to sugar, salt and calorie intakes become healthier, the impact will span the whole of the population. Working to lower calorie intakes has the potential to help reduce inequalities. Those living in the most deprived areas are more likely to experience higher levels of obesity compared to those in less deprived areas. We also know that lower income groups suffer a greater burden of disease. Based on PHE's analysis of the data, it is evident that there is a large range of calories available in everyday purchased foods and meals. The approach of reformulating popular products does not solely rely on changing an individual's behaviour, which is more difficult to achieve, and therefore supports the healthier choice being the easier choice.

The role and contribution of the food industry to support good health through its responsibility to produce healthier food and drink is critical. Government and industry have shared interests in a healthy working population and healthy weight environments. Consumers support government working with the food industry to develop products with fewer calories, portion size reduction and clear menu calorie labelling (3).

In this report, the analysis of 2017 baseline figures for the average calorie content of included food categories, calorie reduction guidelines and their associated metrics are presented.

Calorie reduction guidance

The guidelines have been developed through a programme of extensive discussion and consultation with the food industry and non-governmental organisations. The process was supported by other government departments including the DHSC and the Devolved Administrations in Scotland, Wales and Northern Ireland.

The categories included in this guidance contribute to calorie intake in both children and adults. They are in addition to those covered in the sugar reduction programme and, for the majority of categories, there is cross-over with the salt reduction targets.

PHE's analysis and review of stakeholder feedback concluded that a 20% ambition applied across all categories was unrealistic. This is particularly relevant for retailers and manufacturer branded products where a 20% ambition would not reflect the lower calorie ranges seen in this sector. The calorie reduction ambition for most retailers and manufacturer branded products is a 10% reduction in calories alongside a maximum guideline for products likely to be consumed in a single occasion (calories per portion) across all categories. The intention is that guidelines for the retail and manufacturing sectors would additionally help to ensure that the calorie density and/or portion size of products does not increase in the future.

Calorie ranges available in products sold in those businesses that provide the food and meals that we buy and eat out of the home, take away or have delivered to the home (this will now be referred to as eating out, takeaway and delivery sector) are substantially larger. Therefore a 20% calorie reduction ambition is applied for most meal categories alongside a maximum calories per portion guideline for all categories; children's meal bundles are the exception with a 10% reduction ambition. The eating out, takeaway and delivery sector are not expected to achieve an additional percentage reduction to compensate for the lower ambition for retailers and manufacturers. As a result of this, guidance varies between retailer own brand and manufacturer branded products and the eating out, takeaway and delivery sector. Further details on the rationale for our approach to setting the guidelines can be found in the section on technical guidance.

Joint guidelines for both sectors have been set for sandwiches (5% ambition), crisps and savoury snacks (5% ambition), pizza and pastry products (20% ambition). More detail on the rationale for the category ambitions can be found in the relevant sections of this report.

Tables 2 and 3 provide a summary of baseline figures, calorie reduction guidelines and maximum calorie guidelines for each category by sector. Comprehensive baseline analysis can be found in Appendix 1. PHE is committed to transparent monitoring of the calorie reduction programme. Detailed progress reports will be published in 2022, 2024 and 2025 (see Appendix 3 for reporting timelines).

The calorie reduction guidelines for the eating out, takeaway and delivery sector appear high compared to government recommendations on energy intakes; however, in setting the guidelines PHE have reflected on what is feasible and realistic for this sector given their starting place.

The primary goal for all businesses – retailers and manufacturers and the eating out, takeaway and delivery sector – is to achieve a percentage calorie reduction that is in line with the ambitions set for their relevant categories. Retailers and manufacturers will be monitored against achieving largely a 10% reduction on the sales weighted average (SWA) calories per portion or SWA calories per 100g. The eating out, takeaway and delivery sector will be monitored against achieving largely a 20% calorie reduction on the simple average across the categories identified in the programme but ensuring that individual meals and products do not exceed the maximum calories to be consumed in a single occasion.

Over the next 18 months of the programme PHE will be engaging with the food industry on their progress and direction of travel on calorie reduction. This will also enable PHE to keep a watching brief on approaches that could potentially undermine achievement of the programme’s ambitions and to update government accordingly.

Approach

Businesses are encouraged to use similar mechanisms as outlined in the sugar reduction programme (reducing calorie levels, reducing the size of products likely to be consumed in a single occasion and shifting consumer purchasing towards lower calorie products). When considering portion size reduction, it is important for businesses not to take people beyond a ‘tipping point’ where they consume 2 products instead of 1 or substitute the ‘missing’ calories with other foods meaning that on balance they consume more calories in total.

PHE’s supporting work

PHE remains committed to supporting consumers make healthier choices, which can also increase the demand for lower calorie products. Social marketing campaigns including Change4Life, Better Health and One You will continue to raise awareness of healthy eating messages. 5 A Day guidance, the Eatwell Guide and other broader dietary advice remain unchanged.

Approach to calorie reduction and reformulation

Different categories and metrics have been used for retailers and manufacturer branded products and the eating out, takeaway and delivery sector to reflect the difference in how food is purchased and consumed between the sectors. Retailers and manufacturer branded categories are largely product based and reporting undertaken on a per 100g and calories per portion basis. The eating out, takeaway and delivery sector categories are meal or dish based and only use a calorie per portion metric. Some categories cover both retailers and manufacturer branded products and the eating out, takeaway and delivery sector because the products sold are similar across the sectors and their percentage reduction ambitions vary according to the degree of action that is likely to be feasible. For more information on the approach used, see the technical guidance section.

The guidelines for all sectors and their corresponding metrics can be found in Tables 2 and 3. These reductions can be achieved through the following mechanisms:

- reducing the levels of calories present in products/meals
- reducing the number of calories in, and/or portion size of products/meals likely to be consumed in a single occasion (calories per portion)
- shifting consumer purchasing towards lower calorie products/meals

PHE's salt reduction targets should also be achieved in the products included within the calorie reduction programme, where relevant, therefore calorie reduction should not be accompanied by an increase in salt in these products.

PHE recognises that some businesses have made efforts to reduce the number of calories in a product (per 100g) or the number of calories in products likely to be consumed in a single occasion, before the baseline year. Progress reports from the Reduction and Reformulation programme have previously included case studies from businesses to capture any reductions that had been achieved or were underway immediately prior to the baseline year. PHE will review the inclusion of business case studies in the first progress report for the calorie reduction programme.

Data used to establish the 2017 baselines and guidelines

Calorie reduction progress will be measured from a 2017 baseline. This baseline, agreed by Ministers, aligns with the announcement of the programme in 2017 and setting out the ambition for the programme in 2018.

A variety of data has been used to inform the decisions around the programme and provide the 2017 baseline levels of calories per 100g and calories in products and meals likely to be consumed in a single occasion for each category. This section sets this out the methodology in brief detail. The analysis of calorie levels in the food and meal categories, and more detailed information on the data and methodologies used, can be found in Appendix 1.

Commercial data purchased to establish baseline levels across different food sectors

For retailers and manufacturer branded products, the Kantar Worldpanel commercial dataset was used, which is based on a panel survey of 30,000 households covering sales of food purchased in Great Britain for in home consumption in the year (52 weeks) to 10 September 2017. It is a comprehensive dataset and provides data on both volume sales (in kilograms/litres) and nutrition information that is largely derived from the nutrition panel on food and drink labels. This information enables the SWA to be calculated, which is the calorie content in kcals/100g calculated by weighting the calorie content of each product in kcals/100g by its total sales volume in weight (kilograms). This metric gives more influence to products with higher sales and therefore, changes to the calorie content of products with higher sales will have a greater impact on the SWA than changes for products with fewer sales.

Eating out, takeaway and delivery sector

Commercial data for the eating out, takeaway and delivery sector was purchased from MCA who collect information on sales through a consumer survey. Nutrition information for this sector was collected either from company websites by MCA, or directly from businesses following a request made by PHE for this data. Data from businesses was collected during the summer of 2017 or if the business did not provide 2017 data, 2018 data was used. Due to not being able to accurately link sales data with the nutrition information at a product level, PHE are only able to calculate simple averages for the eating out, takeaway and delivery sector.

Data for children's meal bundles was sourced from data collected by academic research (6). Data for the sandwich category was collected from retailers during the summer of 2018.

Metrics produced

Estimates of baseline total calorie levels for the food and meal categories included in the programme are set out in Appendix 1. The analysis for in home retailers and manufacturer branded products includes SWA (calorie content per 100g and calories in products likely to be consumed in a single occasion weighted by volume of sales). For food and meals purchased in the eating out, takeaway and delivery sector, a simple average calorie content of products likely to be consumed in a single occasion is used. An explanation of these terms and the reason for using a simple average, where relevant, is included in Appendix 1.

Technical guidance

A pragmatic approach has been taken in making the final decisions on the structure and details of the programme, including consideration of relevant feedback received during the programme's engagement with stakeholders. The report sets out the guidelines on how to achieve the calorie reduction ambitions for each category and can be found in tables 2 and 3. Table 2 includes SWA calorie levels per 100g and SWA calorie guidelines for products likely to be consumed in a single occasion, and maximum calorie guidelines for products likely to be consumed in a single occasion. Table 3 includes guidelines on simple average for products likely to be consumed in a single occasion and maximum calorie guidelines for products likely to be consumed in a single occasion.

Rationale

Determining products and meals included in the calorie reduction programme

The ambition of the calorie reduction programme is to lower excess calorie intakes by reducing the calorie content of popular everyday foods. Working in this way can help children, adults and families of all socio-economic groups to have a healthier diet and remove some of the burden of consciously changing their usual eating habits and patterns. Addressing excess calorie consumption remains as important now as it has ever been.

The categories included in the programme contribute to children's and adult's calorie intakes and have scope for some reduction or reformulation. The categories are in addition to those covered in the sugar reduction programme, and for the majority of calorie categories, salt reduction targets also apply.

The National Diet and Nutrition Survey (NDNS) years 7 to 8 was used to assess the contribution of food categories to children's (up to the age of 18 years) and adult calorie intake. The categories covered by the guidelines account for around 14% of calorie intakes in children and 10% for adults. The foods included in the sugar reduction programme account for around 25% of children's calorie intakes and drinks contribute to 5% of calories (includes drinks that are included in the soft drinks industry levy and juice and milk based drinks included in the sugar reduction programme).

Ambitions

Due to substantially more calories and larger portion sizes being available in the eating out, takeaway and delivery sector, the guidelines were set at levels that generally would require more action by this sector to ensure a more level playing field across the food industry. The guidelines for retailers and manufacturer branded products were set acknowledging that the calorie ranges of foods sold in this sector tend to be lower than products/dishes available through the eating out, takeaway and delivery sector. The intention is that guidelines for the retail and manufacturing sectors would additionally help to ensure that the calorie density and/or portion size of products does not increase in the future.

A 10% reduction ambition has been set for most of the categories covering only retailers and manufacturer branded products. This reflects PHE's analysis, and a review of stakeholder feedback, that demonstrated that calorie levels in many products in these categories are lower compared to the eating out, takeaway and delivery sector. A 20% calorie reduction applied across these food categories is therefore unrealistic. For the eating out, takeaway and delivery sector, a 20% calorie reduction ambition is applied for most meal categories as there is clear scope for action in this sector. The eating out, takeaway and delivery sector are not expected to achieve an additional percentage reduction to compensate for the lower ambition for retailers and manufacturers.

Where there is less scope for reduction and reformulation, lower percentage ambitions have been set for certain categories, which include crisps and savoury snacks (5%), sandwich category (5%) and children's meal bundles (10%).

Calorie reduction ambitions have been set for joint sector categories. Due to the higher amount of calories sold out of the home, using this method to set guidelines means that this sector has to go further to reduce the calories in for example their pizzas and pastry products compared to in home retailers and manufacturer branded products.

Category definitions

Different categories have been used for in home retailers and manufacturer branded products and the eating out, takeaway and delivery sector to reflect the difference in how food is purchased and consumed between the sectors. The exception are crisps and savoury snacks, pizzas, pastry products and sandwiches where joint guidelines have been produced because these products feature in all sectors. Details of the category descriptions can be found in Table 1.

Table 1: Description of the products included in each category

The following table provides examples of products or meals that are included in each category – this is not intended to be an exhaustive list. Some of the excluded products have been excluded on the basis that there is limited scope for reduction or reformulation.

Category	Definition
Retailers and manufacturers	
Complete main meals (ready meals)	Includes chilled, frozen or ambient traditional and vegetarian etc (meat, vegetable or meat alternative based) meals **with** a carbohydrate accompaniment (such as pasta, rice, noodles, potatoes, bread), for example, lasagne, chicken korma and rice, vegetarian chilli and rice, sweet and sour prawns with noodles Excludes: • products **without** a carbohydrate component as these are included in meal centres • retail meal kits eg fajita/enchilada meal kits
Meal centres	Includes chilled, frozen or ambient main meal centres with fish, shellfish, meat or poultry, vegetarian or meat alternative products in sauce, or topped with cheese **without** a carbohydrate component, for example, curry without rice, Bolognese sauce without pasta, beef casserole or cod mornay without potato Excludes: • meals with a carbohydrate component as these are included in complete main meals (ready meals) • plain, unprocessed or smoked fish, shellfish, poultry, meat, vegetarian and meat alternative products • plain, unprocessed or smoked fish, shellfish, poultry and meat with a rub, glaze or marinade • pastry based products as these are included in pastry products

Category	Definition
Breaded and battered products	Includes chilled, frozen or ambient breaded or battered fish, shellfish, meat, poultry and vegetarian or meat alternative products, for example, fish fingers, fish cakes, scampi; chicken nuggets, Kiev's, poppers, goujons, southern fried products, escalopes, crisp bakes, breaded vegetarian burgers Excludes: • uncoated fish, shellfish, poultry, meat and vegetarian and meat alternative products
Chips and potato products	Includes chilled, frozen or ambient chips and potato products, for example, potato chips, fries, wedges, waffles, shapes/smiles, rostis, crispy slices; sweet potato chips, fries, wedges; hash browns; croquettes; roast potatoes Excludes: • plain potato • potato with butter, sauce or marinade
Garlic/cheesy bread	Includes chilled or frozen garlic and/or cheesy breads, for example, baguettes, flatbreads, pizza breads, ciabattas, focaccias; garlic tear and share breads; garlic breads with cheese topping such as cheesy garlic bread; dough balls with garlic butter/dip Excludes: • plain bread • savoury bread products with additions • morning goods as included in the sugar reduction programme
Eating out, takeaway and delivery sector	
Starter/side dish/small plates	Includes items such as garlic/cheesy bread, chicken including battered, breaded or grilled and chicken wings, seafood including battered, breaded or grilled, nachos, chips or other potato products or dishes Best practice guidelines suggested for sharing plates or platters that include these dishes
Main meals	Includes main meal menu items eg burger with chips, a large burger in a bun without an accompaniment (≥500kcal), fried chicken/seafood and chips, sausage with vegetables and mash, curry with rice, pasta or noodle dishes, pies and quiche with meal accompaniments (such as roast meals). Also includes items that can be ordered separately on a menu to form a

<table>
<tr><th>Category</th><th>Definition</th></tr>
<tr><td></td><td>main meal such as curry and rice, sausages and mash, fried chicken and chips.

Excludes:
• pizzas as included as a separate category
• pastry products without accompaniments as these are included as a separate category
• small burgers less than 500kcal are included in the sandwiches category</td></tr>
<tr><td>Children’s meal bundles</td><td>Includes specific menu items aimed primarily at children grouped together to form a ‘meal bundle’ at a set price. Children’s meal bundles can include a combination of a starter, main meal, pudding and/or a drink for a set price. Menu items within ‘children’s meal bundles’ can include products from other categories, for example, pizza, pastry products or starters side dish/small plates</td></tr>
<tr><td colspan="2">Joint categories covering retailers, manufacturers and the eating out, takeaway and delivery sector</td></tr>
<tr><td>Crisps and savoury snacks</td><td>Includes all crisps and similar potato/maize snacks sold pre-packaged in supermarkets, as food on the go or out of the home eg all standard potato crisps, and vegetable, baked, multigrain and pulse-based crisps as well as extruded, sheeted and pelleted snacks eg pitta based snacks, pretzels, poppadums, prawn crackers, pork scratchings, salted popcorn, bagged savoury crackers or biscuits

Excludes:
• sweet or sweet/salty popcorn
• fruit crisps eg salt and vinegar apple crisps, dried wasabi peas, crisp and cracker breads</td></tr>
<tr><td>Pizza</td><td>Includes chilled, frozen, prepared and cooked in store and as sold in the out, takeaway and delivery sector, all toppings and types of bases

Excludes:
• garlic pizza breads as these are included in garlic/ cheesy bread for retailers and manufacturers and in starter/side dish/small plates for the eating out, takeaway and delivery sector
• plain pizza bases</td></tr>
<tr><td>Pastry products</td><td>Includes all ambient, chilled and frozen processed and ready to eat, on the go or in the out of home sector such as meat, fish, vegetable, meat alternatives pastry pies,</td></tr>
</table>

Category	Definition
	pasties, sausage rolls, tarts, tartlets, quiches, slices, lattices, plaits Excludes: • potato topped pies as these are included in the complete main meals category
Sandwiches	Includes all sandwiches as sold, on the go covering retailers, manufacturers and the eating out, takeaway and delivery sector. For example, sandwiches, filled subs, baguettes, ciabattas, wraps, bagels, filled muffins (such as bacon, egg sausage muffin), or small burger <500kcal (hamburger or cheese burger) filled bun/bap including a burger in a bun, filled croissants, toasties, paninis. Excludes: • larger burgers which are covered main meal category for the eating out, takeaway and delivery sector

Use of sales weighted average for the calorie reduction guidelines

For most in home retailers and manufacturer branded products, a SWA has been calculated for 2 metrics: the number of calories per 100g and the number of calories for a product likely to be consumed in a single occasion (calories per portion). The guideline figure has been set by applying a 10% reduction to the baseline SWA figure for both metrics for the relevant categories.

Use of simple average calories to be consumed in a single occasion

Due to not being able to link product level sales data with nutritional information, it is not possible to calculate SWAs for the eating out, takeaway and delivery sector, therefore, a simple average (SA) was used to calculate the calories per portion guidelines for this sector. Refer to Appendix 1 for further details on data limitations of the eating out, takeaway and delivery sector.

Calorie guidelines for products to be consumed by an individual in a single occasion

There are 2 types of guidelines for calories to be consumed by an individual in a single occasion; a maximum calories per portion guideline and a simple or SWA calories per portion guideline.

PHE includes SWA or SA calories per portion guidelines to provide businesses with flexibility in achieving portion size reduction within their portfolio. Therefore, this means that businesses can sell products or dishes that are above or below the guideline, but it is the average (SWA or simple average depending on the category) of the portfolio that should be cross referenced with the guideline and percentage ambition.

The maximum calorie guidelines were set for in home retailers and manufacturer branded products and the eating out, takeaway and delivery sector so that calories per portion should not exceed the 75th percentile of the current range of products on the market to reduce portion size. Maximum calorie guidelines are based on a pragmatic approach following a PHE review of portion sizes available on the market using nutrition data from Kantar Worldpanel and MCA. Products and meals were evaluated by looking at the distribution of calories per portion. Also taken into account was data on the weight of product consumed by individuals from the NDNS (7) and recommendations on calories to be consumed at different eating occasions. An exception to this is for the chips and potato products and garlic/cheesy bread categories where retailer or manufacturer suggested portion size of key products in the category have been used to inform pragmatic decisions. This is because products in these categories are generally sold in multipacks rather than discrete items.

For the eating out, takeaway and delivery sector, best practice guidance has been provided for larger pizza sizes and sharing starters/side dish/small dish categories by using a multiplier of the maximum calorie guideline for products likely to be consumed in a single occasion. The details of the multiplier values can be found in the footnotes of Table 3 and the subsequent sections of the report. Businesses should work towards producing products or dishes that do not exceed the maximum calorie guideline for products that are likely to be consumed by an individual in a single occasion and apply the best practice guidance where appropriate.

Table 2: Summary of calorie reduction guidelines for in home retailers and manufacturers and crisps and savoury snacks guideline[a]

Category	Calorie reduction ambition (%)	Baseline SWA per 100g (range) (kcal)	SWA reduction guideline per 100g (kcal)	Baseline SWA calories per portion (range) (kcal)	SWA guideline calories per portion (kcal)	Maximum guideline for calories per portion (75th percentile) (kcal)
Complete main meals (ready meals)	10	135 (70-270)	120	475 (205 – 775)	430	570
Breaded and battered products	10	225 (150-300)	200	275 (145 – 525)	245	320
Meal centres	10	135 (70-270)	120	310 (120 – 705)	280	410
Chips and potato products	10	165 (100-250)	150	225 (140-410)	205	270
Garlic/cheesy bread	10	345 (275-410)	315	260 (165-375)	235	320
Crisps and savoury snacks	5	510 (400-570)	480	120 (70 – 410)	115	205

[a]All of the figures have been rounded to the nearest 5kcal

Table 3: Summary of calorie reduction guidelines for the eating out, takeaway and delivery sector and joint categories[a]

Category	Calorie reduction ambition (%)	Baseline SA calories (Range of calorie levels) (kcal)	Simple average guideline calories per portion (kcal)	Maximum guideline for calories per portion (75th percentile) (kcal)
Eating out, takeaway and delivery sector				
Main meal	20%	1,080 (385 – 2,095)	860	1,345
Starter/side dish/small plates[b]	20%	465 (110 – 1,230)	375	600
Children's meal bundles[d]	10%	700 (400 – 1,230)	630	825
Retailers and manufacturers and eating out, takeaway and delivery sector out of home[c]				
Pizza[de]	20%	1040 (475 – 2,320)	830	1,230
Pastry products	20%	535 (100 – 1,385)	430	670
Sandwiches	5%	510 (220 – 1,140)	480	580

[a]All of the figures have been rounded to the nearest 5kcal

[b] Best practice guidance for sharing starters/side dish/small plates uses a multiplier of the maximum calorie guideline for a single serving (600kcal). For example, for a sharing starter for 2 should contain no more than 1,200kcal or for three 1,800kcal

[c] Joint guidelines for pizza, pastry products and sandwiches have been set using data for the eating out, takeaway and delivery sector.

[d] Figures are based on weighted data to ensure all businesses products were equally represented in the analysis

[e]Best practice guidance for a sharing pizza (defined as greater than 11.5 inches diameter (or equivalent) or called a large, xl larger or xxl large) using a multiplier of the maximum calorie guideline for a single serving (1230 kcal). For example, a sharing pizza for 2 should contain no more than 2460kcal or a pizza for three no more than 3690kcal

Category specific considerations

Details of the data used to inform decisions can be found in the section on Data used to establish 2017 baselines and Appendix 1.

Crisps and savoury snacks

A 5% reduction ambition has been set for crisps as this reflects the composition of many products within the category (for exampled, just potato and oil) is difficult to change and continue to provide the same product. A number of differently made, lower calorie products are available in the category.

Starters, side dishes, small plates

It is acknowledged that within the eating out, takeaway and delivery sector starters, side dishes and small plates are sold both for individual consumption and also for sharing, with ‘sharing platters or plates’ being popular within some business models. The guidelines focus on starters, sides dishes or small plates likely to be consumed by an individual in a single occasion, with additional best practice guidelines provided based on a multiplier for sharing platters or sharing plates for this category.

For sharing starters/side dish/small plates a multiplier based on the maximum calorie guideline for a single serving (600kcal) is suggested as a best practice guideline. For example, a sharing starter for 2 people should contain no more than 1,200kcal or a sharing starter for 3 people no more than 1,800kcal.

Children’s meal bundles

Children’s meal bundles refer to specific menu items available in the eating out, takeaway and delivery sector aimed primarily at children and grouped together to form a ‘meal bundle’ at a set price. Children’s meal bundles can include a combination of a starter, main meal, pudding and/or a drink for a set price. Menu items within ‘children’s meal bundles’ can include products from other categories included in this programme, for example pizza, pastry products, starters.

For children’s meal bundles, a 10% reduction on the simple average has been set recognising the progress already made by the eating out, takeaway and delivery sector for this category. The variety of combinations of products that can be selected for each bundle was also considered when setting the guideline. The focus is on children’s meal bundles because they are a popular option and may encourage families to order more due to them being viewed as good ‘value for money’ in casual dining and quick service restaurants.

Children may also be eating meals included on menus which are not specifically aimed at them. These menu items are captured under separate categories for the eating out, takeaway and delivery sector.

Calorie reduction ambitions for joint sector categories

Sandwiches (5% reduction) are sold across all sectors but are purchased as ‘food on the go’ and this data is captured under the eating out, takeaway and delivery sector’. For pizzas and pastry products, a joint guideline was produced based on a 20% reduction on the eating out, takeaway and delivery data only, but the guideline figure was cross checked against the Kantar data for retailers and manufacturer branded products to ensure feasibility. Due to the higher ranges of calories sold through the eating out, takeaway and delivery sector, using this method to set guidelines means that this sector has to go further to reduce the calories in their pizzas and pastry products compared to in home retailers and manufacturer branded products. It will also help to ensure there is greater alignment between products available in retail settings, on the go and in the eating out, takeaway and delivery sector.

Pizzas

The joint guideline is based on applying a 20% calorie reduction to the simple average of the eating out of home, takeaway and delivery data only. Only a calories in products likely to be consumed in a single occasion metric has been used to reflect how the eating out of home, takeaway and delivery sector operates. The figure was cross checked against data for in home retailers and manufacturer branded products. In producing the guideline, data for the eating out of home, takeaway and delivery sector was weighted to ensure all companies equally contribute to the summary value, so are not skewed by the number of products of each company in the analysis. Given the way that this guideline has been set, retailers and manufacturers will need to cross check their portfolios using the simple average figure.

The maximum calorie guideline (75th percentile) for pizza likely to be consumed by an individual in a single occasion was based on extensive analysis evaluating the impact of including different pizza sizes in the analysis. Following consideration of stakeholder feedback and further analysis, the guidelines focus on pizza likely to be consumed by an individual in a single occasion. In summary, the maximum calorie guideline for products likely to be consumed in a single occasion is based on the analysis of products that are described as personal, small, or medium or up to 11.5 inches in diameter. To ensure that larger pizzas are encompassed as part of the programme, a multiplier was devised based on the maximum calorie guideline (1,230 kcal) and is suggested as a best practice guideline. For example, a sharing pizza for 2 people should contain no more than 2,460kcal or a pizza for 3 people no more than 3,690kcal.

Pastry products

The guideline for pastry products was derived by applying a 20% calorie reduction on the simple average calories per portion of the eating out of home data only and cross checked against products available across in home retailers and manufacturers and the eating out, takeaway and delivery sector. Only a calories in products likely to be consumed in a single occasion metric has been used to reflect how the eating out of home, takeaway and delivery sector operates. Given the way that this guideline has been set, retailers and manufacturers will need to cross check their portfolios using the simple average figure.

Sandwiches

The guideline is based on applying a 5% calorie reduction to the simple average of the eating out of home, takeaway and delivery sector, as ‘food on the go’ is only captured within this data set. The lower ambition reflects that there is less scope for substantial reformulation or a reduction in portion size for some products included within this category.

Small burgers containing ≤ 500kcal have been included in the sandwiches category to capture the smaller and less calorie dense burgers available in the eating out, takeaway and delivery sector.

Calorie reduction guidelines and ambitions

The primary goal for all businesses – in home retailers and manufacturers and the eating out, takeaway and delivery sector – is to achieve a percentage calorie reduction that is in line with the ambitions set for their relevant categories. For retailers and manufacturers, this means achieving largely a 10% reduction on the SWA calories for products likely to be consumed in a single occasion (calories per portion). For products where this is less relevant, for example products sold in multipacks where the consumer determines their own portion size, achieving the relevant percentage calorie reduction on the SWA calories per 100g should be the main focus. With these types of products, additional best practice guidance would be for the stated portion size provided by the manufacturer on back of pack not to exceed the guideline for the maximum calories likely to be consumed in a single occasion, for example recommended portion size for chips and potato products should not exceed 270kcal, but it is acknowledged that this may not be relevant for every product. Although the focus of how to achieve calorie reduction may differ between businesses, PHE will be monitoring progress against both metrics.

The eating out, takeaway and delivery sector will be monitored against achieving largely a 20% calorie reduction on the simple average across the categories identified in the programme but ensuring that individual meals and products do not exceed the maximum calories to be consumed in a single occasion. Best practice guidelines for the eating out, takeaway and delivery sector have also been recommended to cover larger pizzas that will be shared and sharing starters, side plates and sides.

PHE has produced guidelines to help businesses work towards achieving calorie reduction ambitions. The calorie reduction guidelines are detailed in Tables 2 and 3 together with the associated calorie reduction ambitions.

Impact assessment

Calories removed

The impact of the proposed calorie guidelines on the proportion of calories sold, if the guidelines were achieved in full, was modelled for retailers and manufacturers and the eating out, takeaway and delivery sector using Kantar Worldpanel and supplied nutrition data, respectively.

Joint guidelines for products likely to be consumed in a single occasion (calories per portion) have been set for the pastry products and pizza categories, based on a 20% reduction of the eating out, takeaway and delivery sector average. Therefore, when modelling the impact of these guidelines for retailers and manufactures for these categories, the category's simple average needed to achieve the per serving guideline value has been used rather than the sales weighed average. Further details of the methodology used, and the assumptions made can be found in Appendix 3.

It is estimated that if the ambitions were achieved in full by in home retailers and manufacturers, it would result in a -8.6% reduction in calories sold per 100g and a -6.8% reduction in calories sold per portion.

For the eating out, takeaway and delivery sector, it is not possible to derive a summary estimate of calories sold due to no available product level sales information.

Summary of stakeholder engagement to inform the guidelines

The development of the categories included in the programme and the nature of the ambition to be achieved was informed by extensive stakeholder engagement.
For further information on the general feedback themes provided by stakeholders and a table of those who engaged with PHE, please refer to PHE's Reduction and Reformulation: Spring 2019 update. From PHE's initial draft proposals, the number of categories have been narrowed and repurposed following the review of stakeholder feedback together with PHE's own analysis and consideration.

Next steps

The report sets out the ambition for calorie reduction across all sectors of the food industry and the accompanying guidelines help businesses work towards this, with the eating out, takeaway and delivery sector being asked to achieve greater progress by 2024. Industry is encouraged to include this as part of the ongoing cycle of reformulation and innovation focusing their calorie reduction efforts and/or reduce their product portion size of their biggest sellers. This will drive a reduction in calorie intake as these products are consumed more regularly and contribute more energy to the diet.

PHE is committed to transparent monitoring of the calorie reduction programme. Detailed progress reports will be published in 2022, 2024 and 2025 covering August to September of the previous year e.g. the report in 2022 will cover 52 weeks from August 2020 to September 2021. A summary of reporting timelines is included in Appendix 3. The timing of this reporting accounts for lags between the completion of reformulation cycles and products appearing on the market with lower calorie levels that are reflected in the nutrition information on pack or on menus. PHE will expect to see reductions in both the SWA and simple average levels of calories across categories and the amount of high calorie products/ meals being sold, as well as a reduction in portion sizes for products/meals likely to be consumed by an individual in a single occasion. It will be for government to decide if further action is required based on industry progress.

Over the next 18 months of the programme PHE will be engaging with the food industry on their progress and direction of travel on calorie reduction. This will also enable PHE to keep a watching brief on approaches that could potentially undermine achievement of the programme’s ambitions and to update government accordingly.

Acknowledgements

We would like to thank the businesses and trade associations across all sectors of the food industry, and a number of public health non-governmental organisations, for their constructive engagement and significant contributions to the development of the calorie reduction guidelines.

Appendices

Appendix 1

Baseline analysis of calorie levels in key food categories

Appendix 2

Impact assessment of calorie availability

Appendix 3

Summary of reporting timelines for the calorie reduction programme

Appendix 1: Baseline analysis of calorie levels in key food categories

Estimated 2017 calorie content in key food and meal categories included in PHE's calorie reduction programme

Introduction

Analysis has been undertaken to estimate baseline levels of calories for 2017 for the different food and meal categories that are included in the calorie reduction programme. The programme is working to reduce the levels of calories in everyday foods. This appendix sets out the baseline estimates in detail including the data sources, analytical methods, limitations to the data and analysis, and the analytical decisions made.

Methodology

Datasets were coded into calorie categories and a thorough data cleaning process undertaken. This included the removal of duplicate products (for the out of home dataset), handling of outliers and implausible values, standardisation of nutritional information and exclusion of imputed data (for Kantar Worldpanel data only). All processes were subject to quality assurance measures, details of which can be found in the relevant section of Appendix1. Results are presented for retailers and manufacturer branded products for in home consumption and the eating out, takeaway and delivery sector.

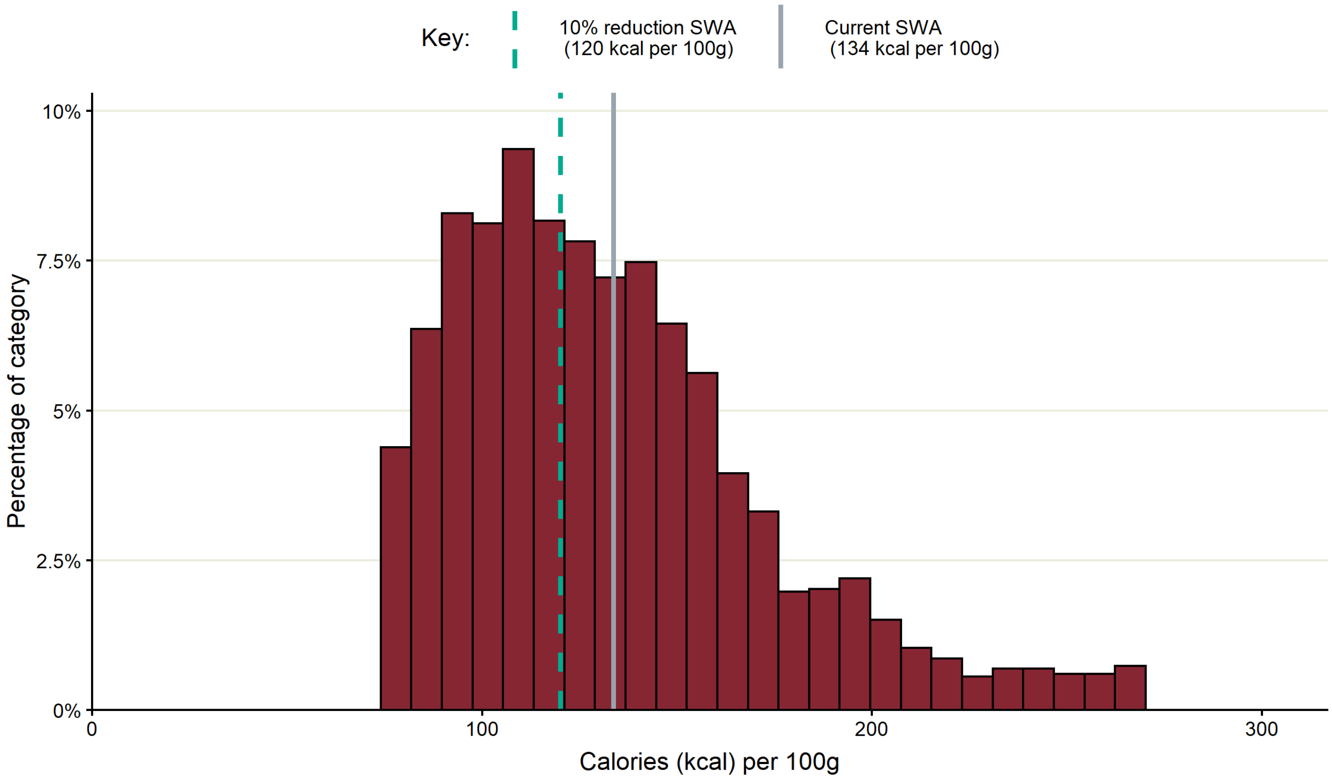
Refer to the manufacturers and retailers and eating out of home sections further in Appendix 1 for dataset specific methodology information.

Summary of analysis to inform results: retailers and manufacturer branded products

Table 4: 2017 baseline sales weighted average, range and guidelines in complete main meals (ready meals) for total calories (kcal/100g) for retailers and manufacturers

Metric	2017
Total calorie range (min-max kcals per 100g)	74-268
Simple average (kcals per 100g)	133
Baseline SWA (kcals per 100g)	134
10% reduction SWA (kcals per 100g)	120

Figure 1: Distribution of calorie levels for complete main meals (ready meals) per 100g - retailers and manufacturers

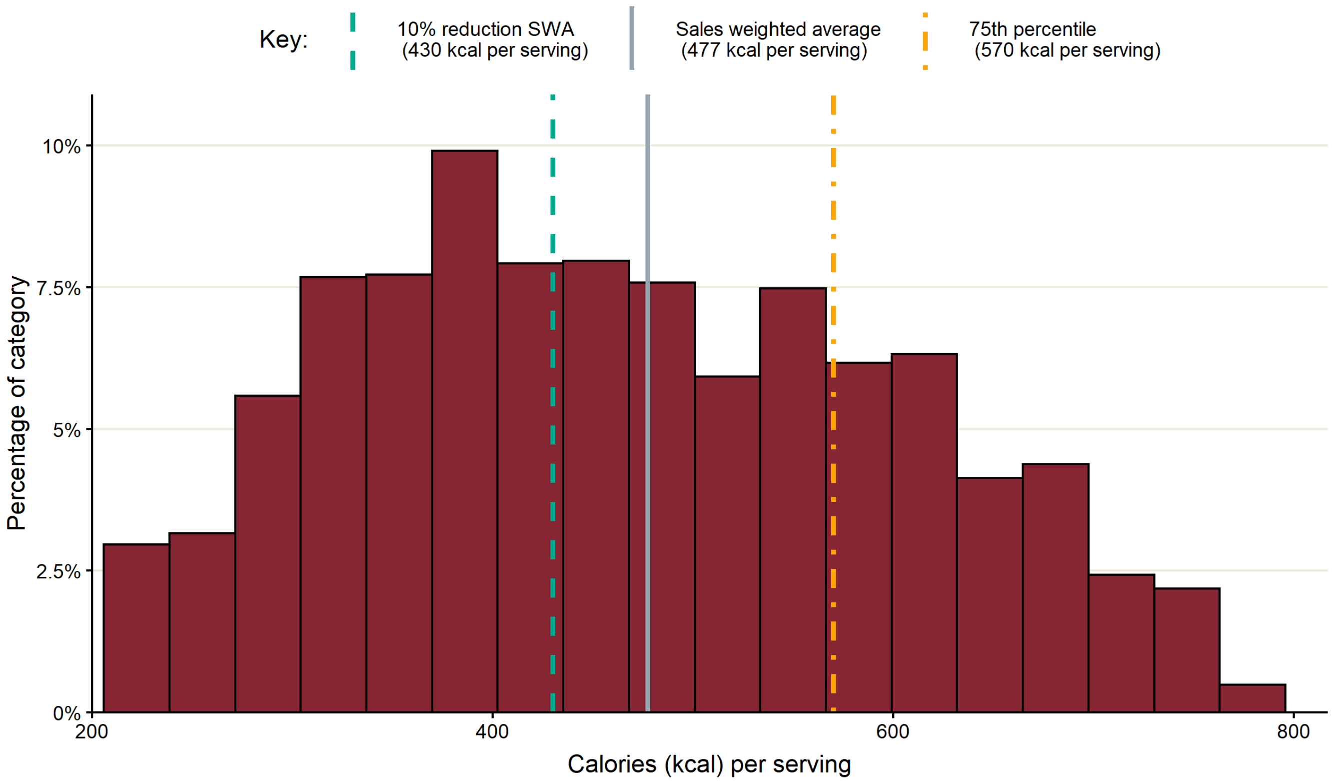


All proposed guideline values are rounded to the nearest 5kcal

Table 5: 2017 baseline sales weighted average, range and guidelines in complete main meals (ready meals) for calories in products likely to be consumed in a single occasion for retailers and manufacturers

Metric	2017
Total calorie range (min and max kcals per serving)	206-776
Baseline SWA (kcals per serving)	477
10% reduction SWA (kcals per serving)	430
75th percentile (kcals per serve)	570

Figure 2: Distribution of calories likely to be consumed in a single occasion for complete main meals - retailers and manufacturers

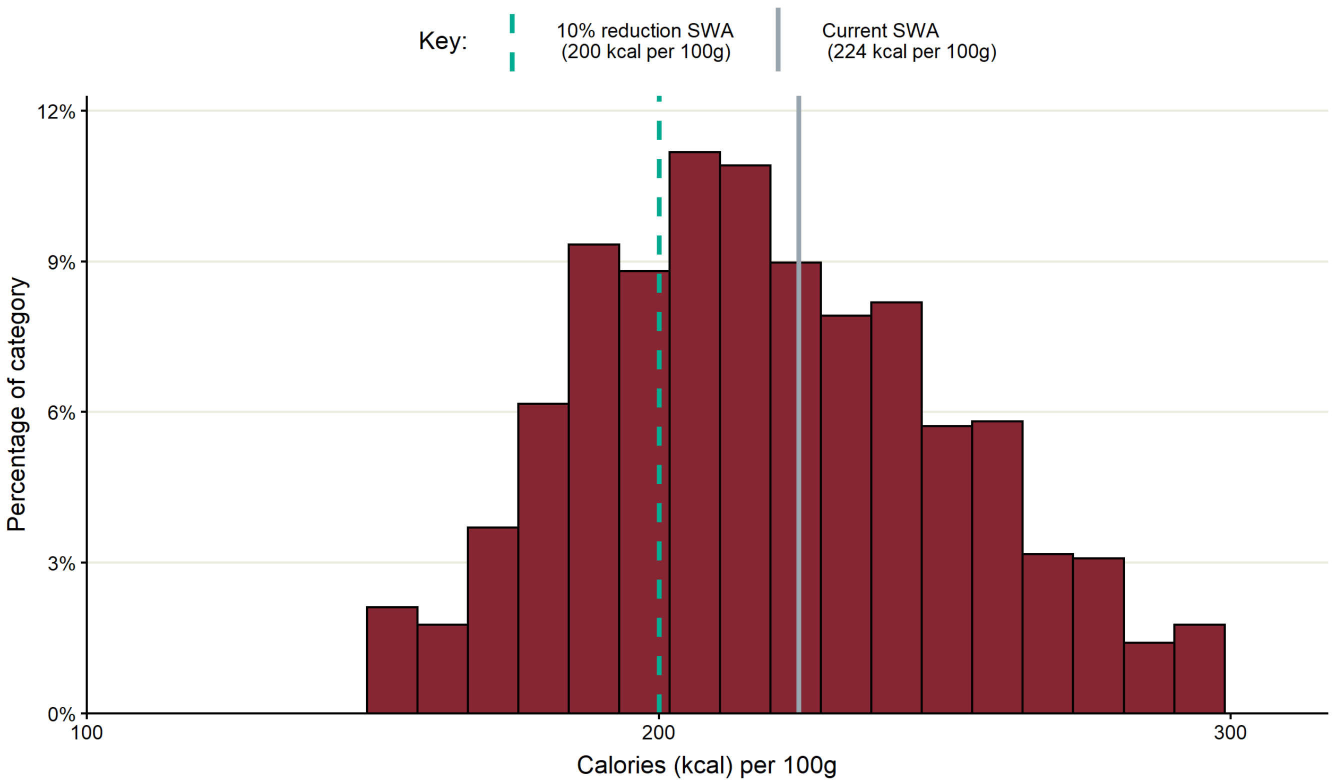


Note: the x-axis begins at 200 kcal per serving. All proposed guideline values are rounded to the nearest 5kcal

Table 6: 2017 baseline sales weighted average, range and guidelines in breaded and battered products for total calories (kcal/100g) for retailers and manufacturers

Metric	2017
Total calorie range (min-max kcals per 100g)	149-298
Simple average (kcals per 100g)	219
Baseline SWA (kcals per 100g)	224
10% reduction SWA (kcals per 100g)	200

Figure 3: distribution of calorie levels per 100g for breaded and battered products - retailers and manufacturers

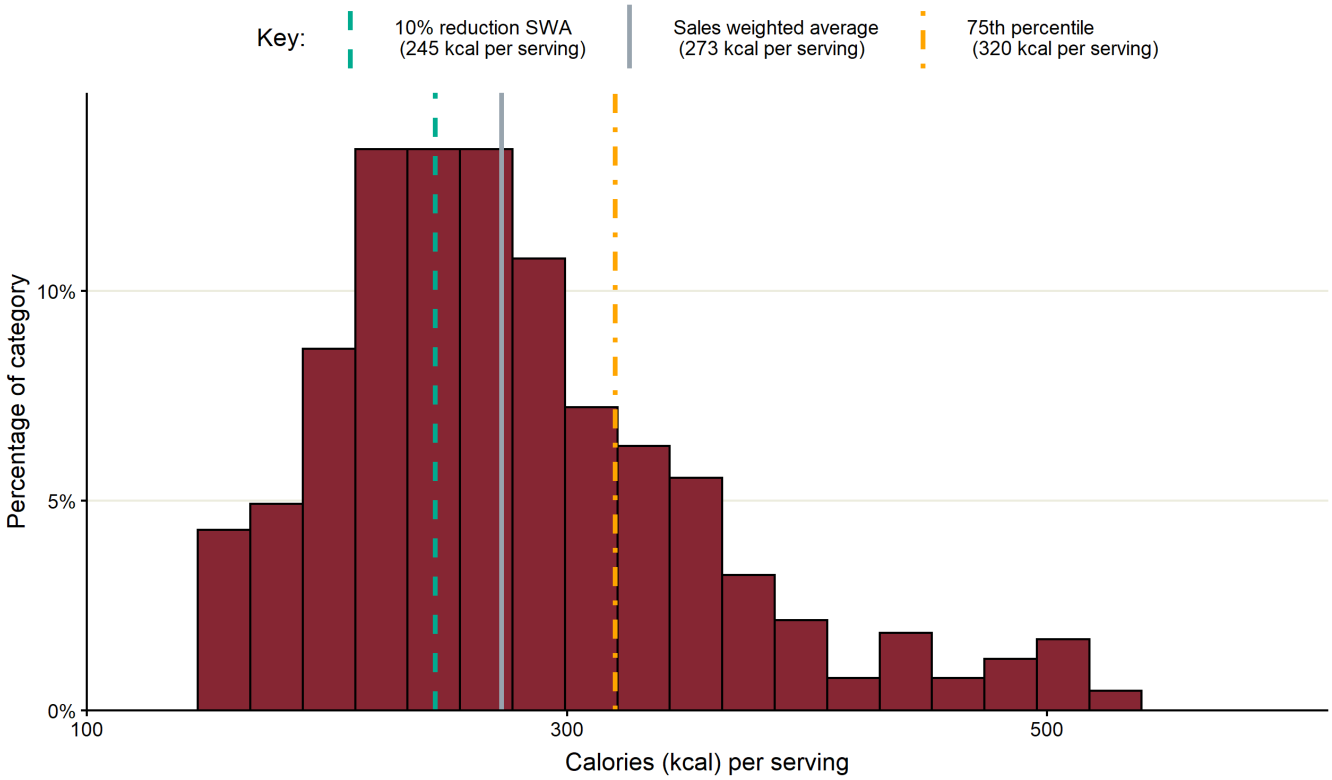


Note: the x-axis begins at 100 kcal per 100g. All proposed guideline values are rounded to the nearest 5kcal.

Table 7: 2017 baseline sales weighted average, range and guidelines in battered and breaded products for calories in products likely to be consumed in a single occasion for retailers and manufacturers

Metric	2017
Total calorie range (min and max kcals per serving)	146-527
Baseline SWA (kcals per serving)	273
10% reduction SWA (kcals per serving)	245
75th percentile (kcals per serve)	320

Figure 4: Distribution of calories likely to be consumed in a single occasion for breaded and battered products – retailers and manufacturers

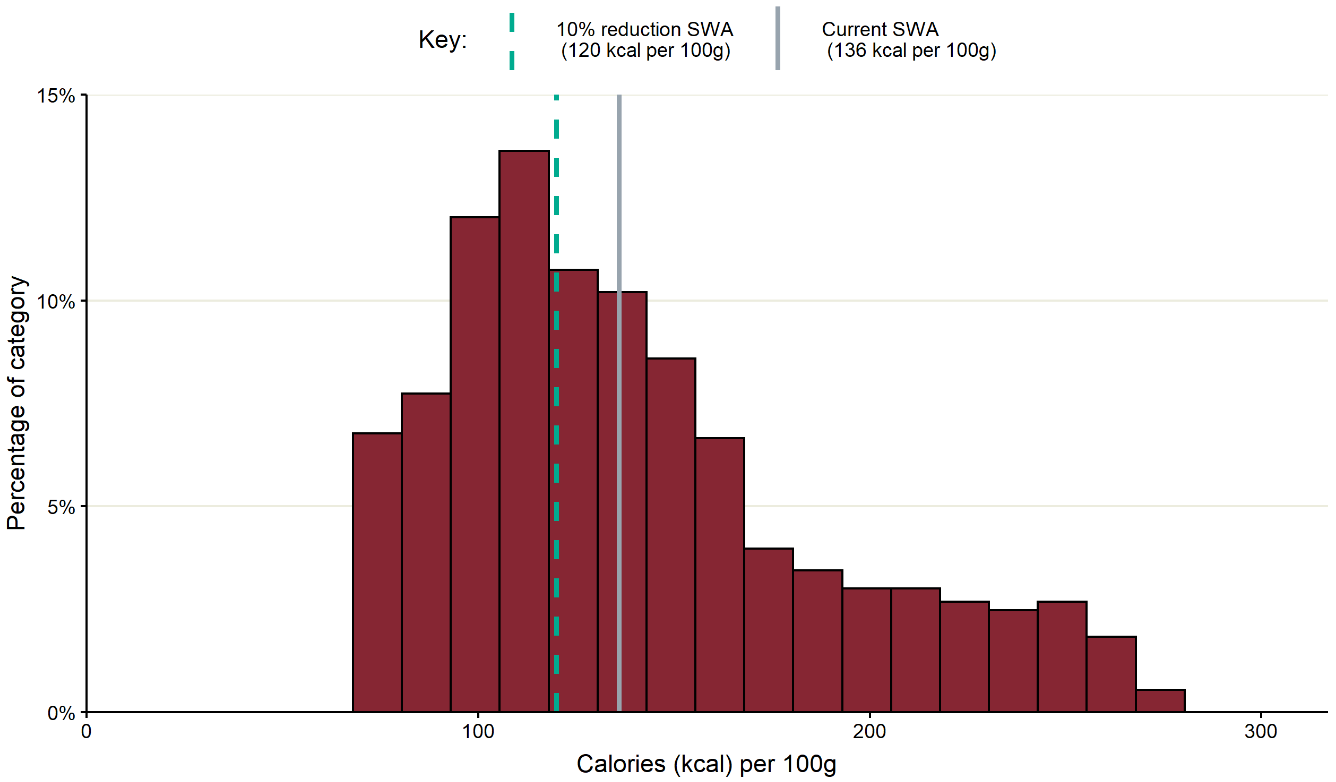


Note: the x-axis begins at 100 kcal per serving. All proposed guideline values are rounded to the nearest 5kcal.

Table 8: 2017 baseline sales weighted average, range and guidelines in meal centres for total calories (kcal/100g) for retailers and manufacturers

Metric	2017
Total calorie range (min-max kcals per 100g)	68-270
Simple average (kcals per 100g)	140
Baseline SWA (kcals per 100g)	136
10% reduction SWA (kcals per 100g)	120

Figure 5: Distribution of calorie levels for meal centres per 100g - retailers and manufacturers

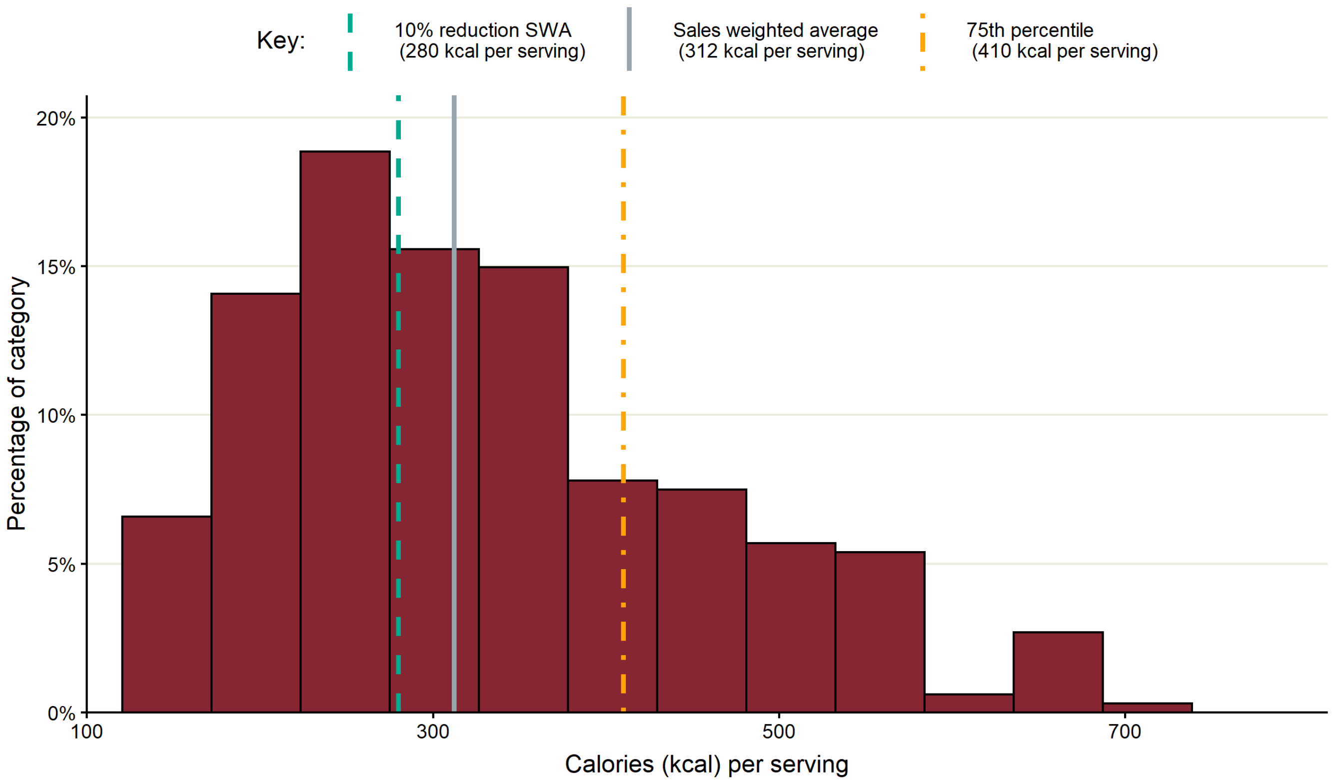


Note: all proposed guideline values are rounded to the nearest 5kcal

Table 9: 2017 baseline sales weighted average, range and guidelines in meal centres for calories in products likely to be consumed in a single occasion for retailers and manufacturers

Metric	2017
Total calorie range (min and max kcals per serving)	120-704
Baseline SWA (kcals per serving)	312
10% reduction SWA (kcals per serving)	280
75^{th} percentile (kcals per serve)	410

Figure 6: Distribution of calories consumed in a single occasion in meal centres - retailers and manufacturers

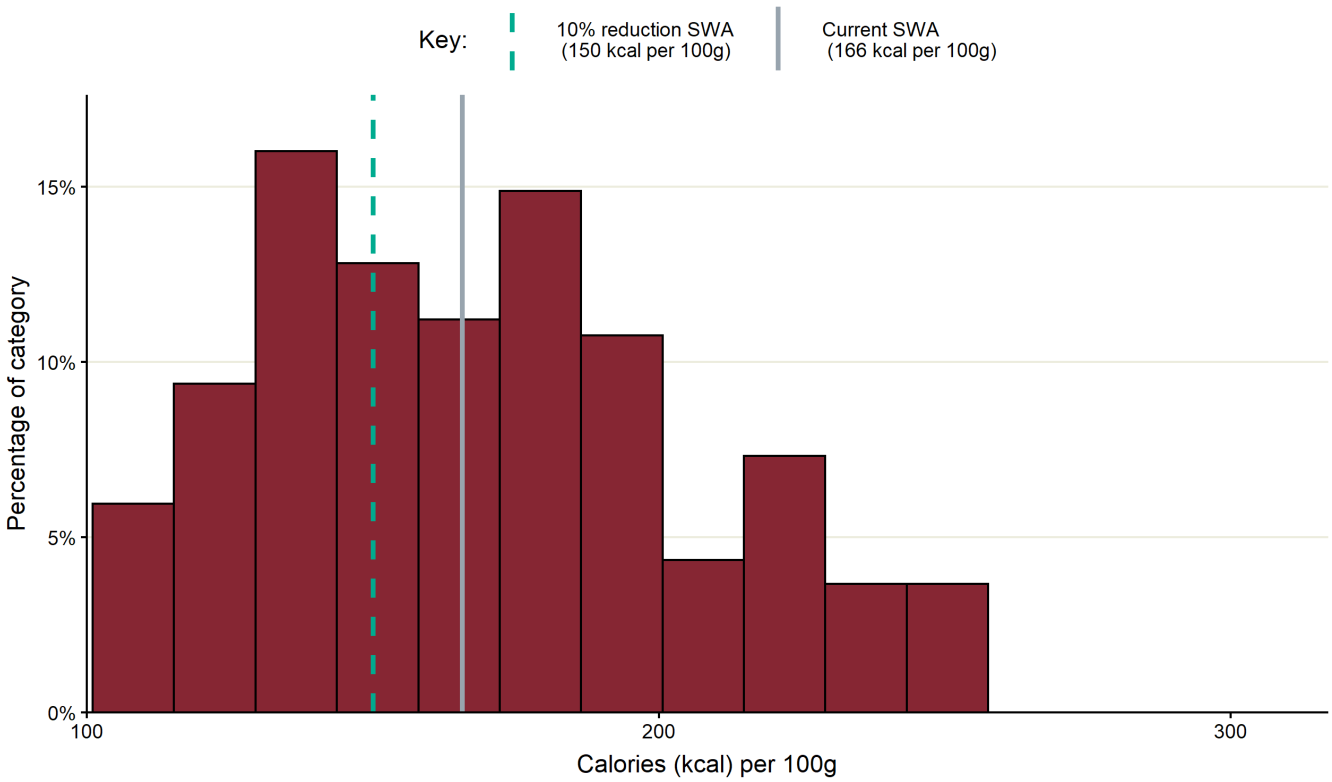


Note: the x-axis begins at 100 kcal per serving. All proposed guideline values are rounded to the nearest 5kcal

Table 10: 2017 baseline sales weighted average, range and guidelines in chips and potato products for total calories (kcal/100g) for retailers and manufacturers

Metric	2017
Total calorie range (min-max kcals per 100g)	101-249
Simple average (kcals per 100g)	168
Baseline SWA (kcals per 100g)	166
10% reduction SWA (kcals per 100g)	150

Figure 7: Distribution of calories per 100g in chips and potato products - retailers and manufacturers

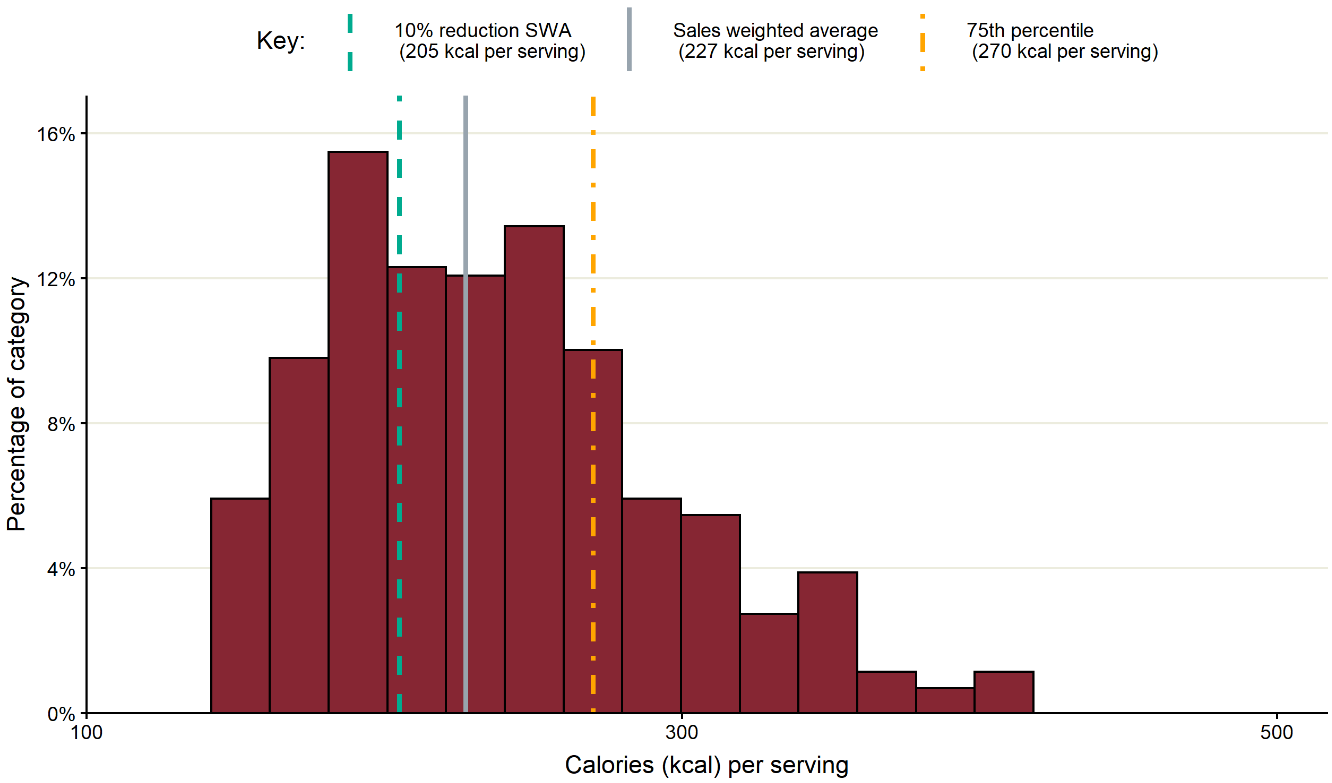


Note: the x-axis begins at 100 kcal per 100g. All proposed guideline values are rounded to the nearest 5kcal.

Table 11: 2017 baseline sales weighted average, range and guidelines in chips and potato products for calories in products likely to be consumed in a single occasion for retailers and manufacturers

Metric	2017
Total calorie range (min and max kcals per serving)	142-412
Baseline SWA (kcals per serving)	227
10% reduction SWA (kcals per serving)	205
75th percentile (kcals per serve)	270

Figure 8: Distribution of calories consumed in a single occasion in chips and potato products – retailers and manufacturers

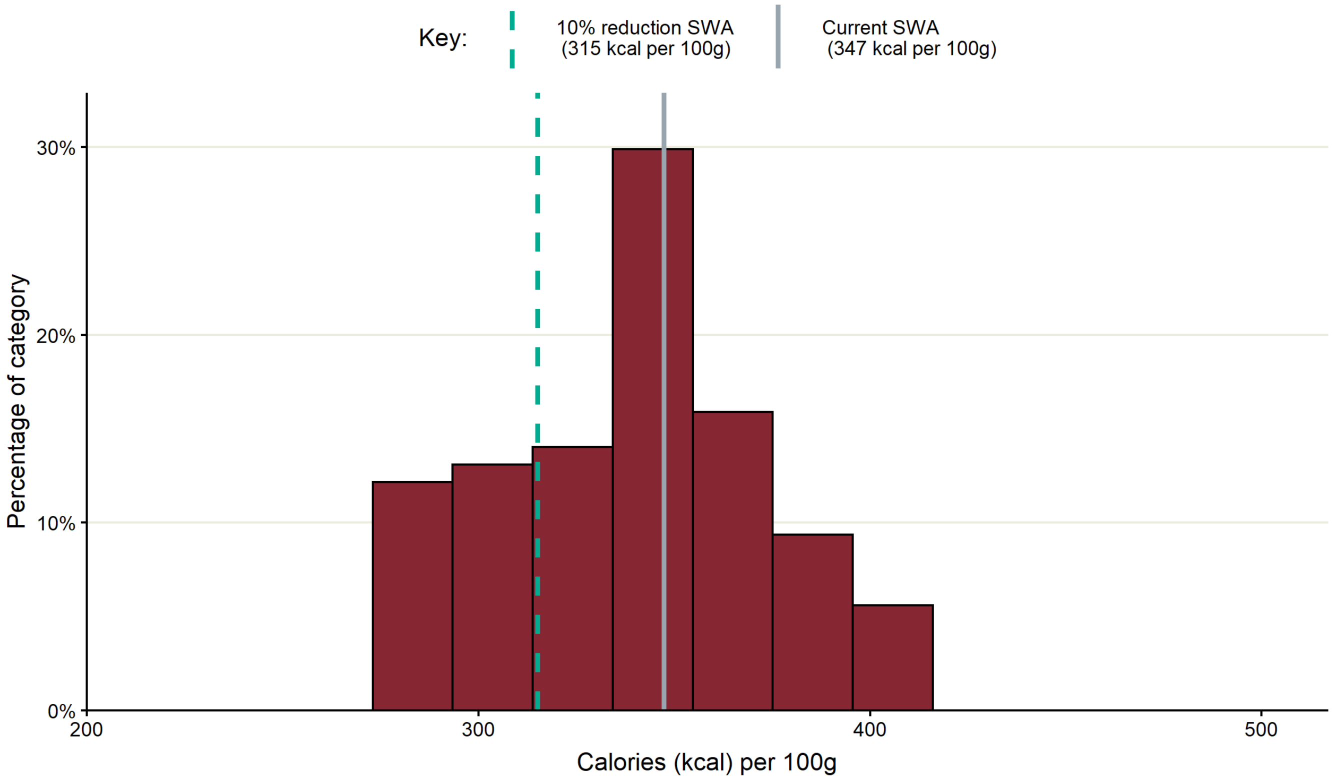


Note: the x-axis begins at 100 kcal per serving. All proposed guideline values are rounded to the nearest 5kcal.

Table 12: 2017 baseline sales weighted average, range and guidelines in garlic/cheesy bread products for total calories (kcal/100g) for retailers and manufacturers

Metric	2017
Total calorie range (min-max kcals per 100g)	273-411
Simple average (kcals per 100g)	339
Baseline SWA (kcals per 100g)	347
10% reduction SWA (kcals per 100g)	315

Figure 9: Distribution of calories per 100g in garlic/cheesy bread - retailers and manufacturers

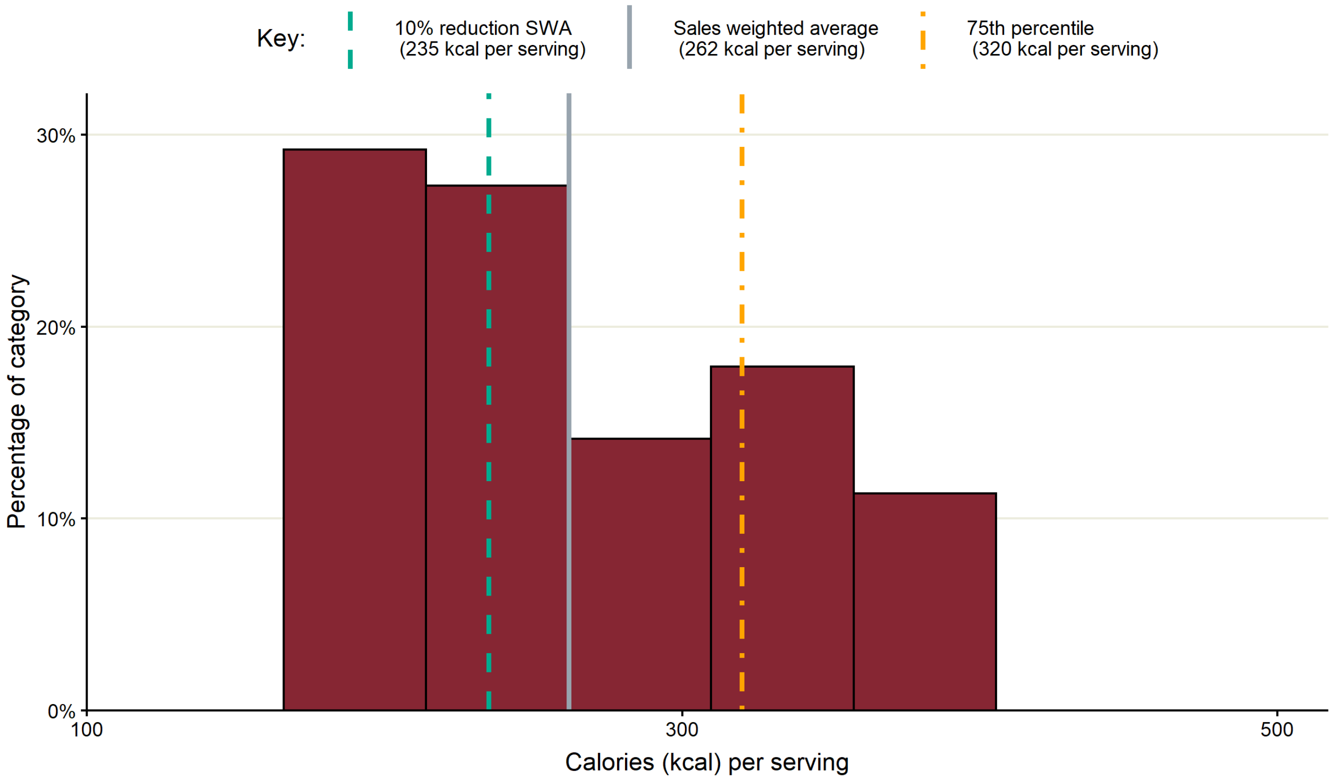


Note: the x-axis begins at 200 kcal per 100g. All proposed guideline values are rounded to the nearest 5kcal

Table 13: 2017 baseline sales weighted average, range and guidelines in garlic/cheesy bread products for calories likely to be consumed in a single occasion for retailers and manufacturers

Metric	2017
Total calorie range (min and max kcals per serving)	166-376
Baseline SWA (kcals per serving)	262
10% reduction SWA (kcals per serving)	235
75th percentile (kcals per serve)	320

Figure 10: Distribution of calories consumed in a single occasion in garlic/cheesy bread – retailers and manufacturers

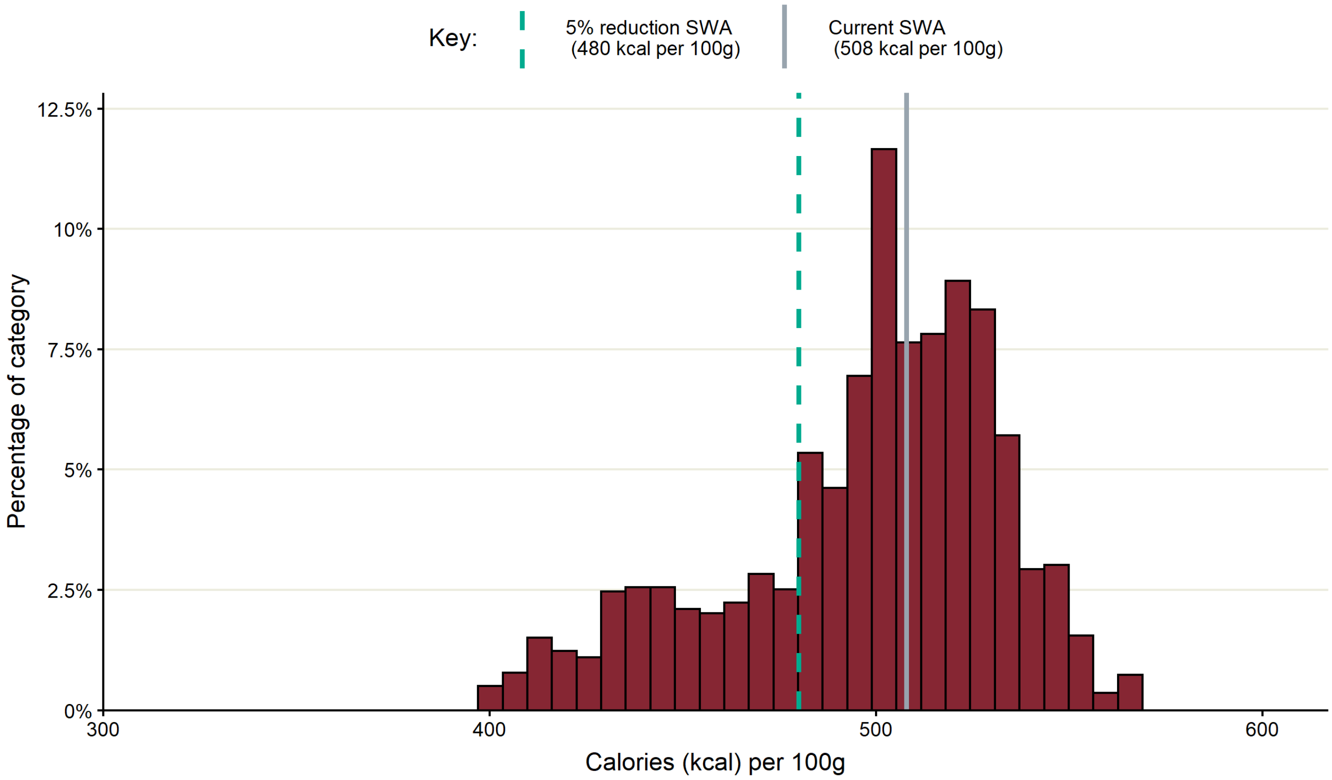


Note: the x-axis begins at 100 kcal per serving. All proposed guideline values are rounded to the nearest 5kcal.

Table 14: 2017 baseline sales weighted average, range and guidelines in crisps and savoury snack products for total calories (kcal/100g) for retailers and manufacturers

Metric	2017
Total calorie range (min-max kcals per 100g)	397-568
Simple average (kcals per 100g)	497
Baseline SWA (kcals per 100g)	508
5% reduction SWA (kcals per 100g)	480

Figure 11: Distribution of calories per 100g in crisps and savoury snacks - retailers and manufacturers

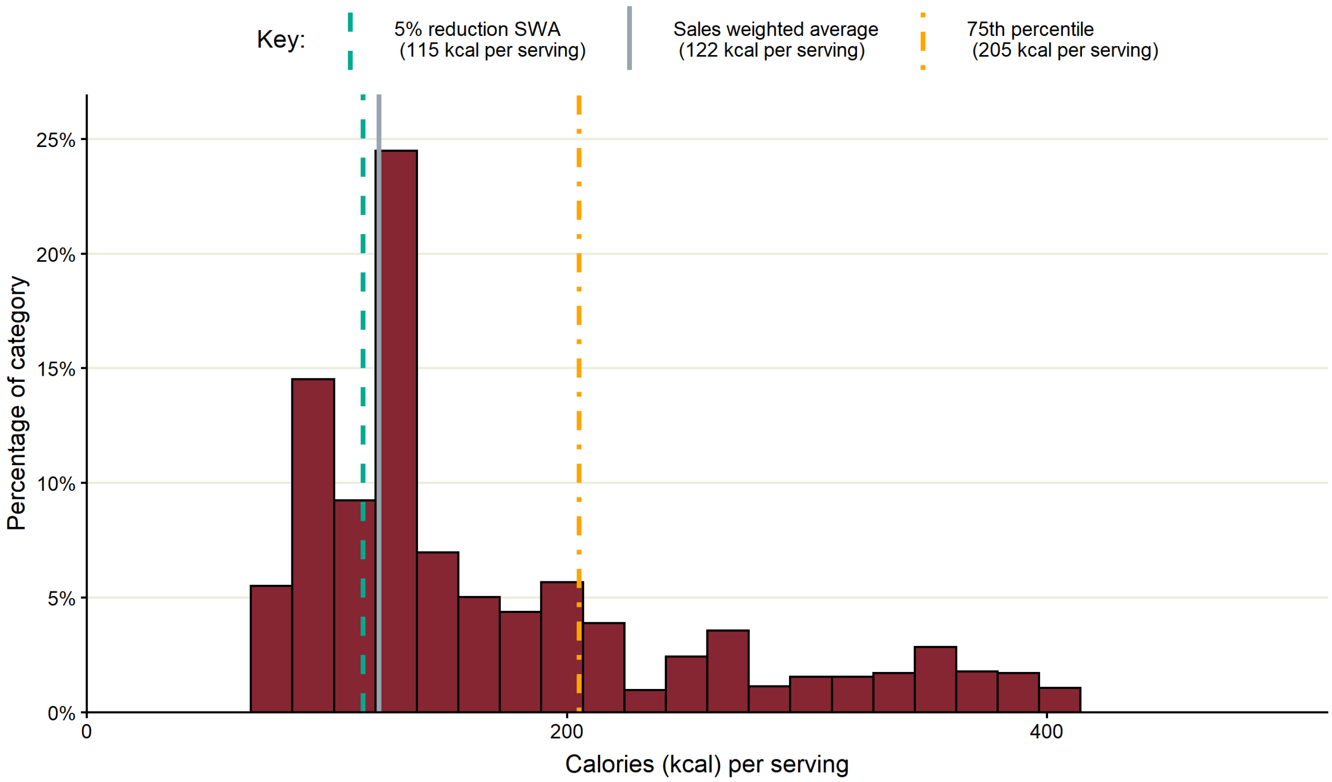


Note: the x-axis begins at 300 kcal per 100g. All proposed guideline values are rounded to the nearest 5kcal.

Table 15: 2017 baseline sales weighted average, range and guidelines in crisps and savoury snacks products for calories in products likely to be consumed in a single occasion for retailers and manufacturers

Metric	2017
Total calorie range (min and max kcals per serving)	68-409
Baseline SWA (kcals per serving)	122
5% reduction SWA (kcals per serving)	110
75th percentile (kcals per serve)	205

Figure 12: Distribution of calories consumed in a single occasion in crisps and savoury snacks – retailers and manufacturers



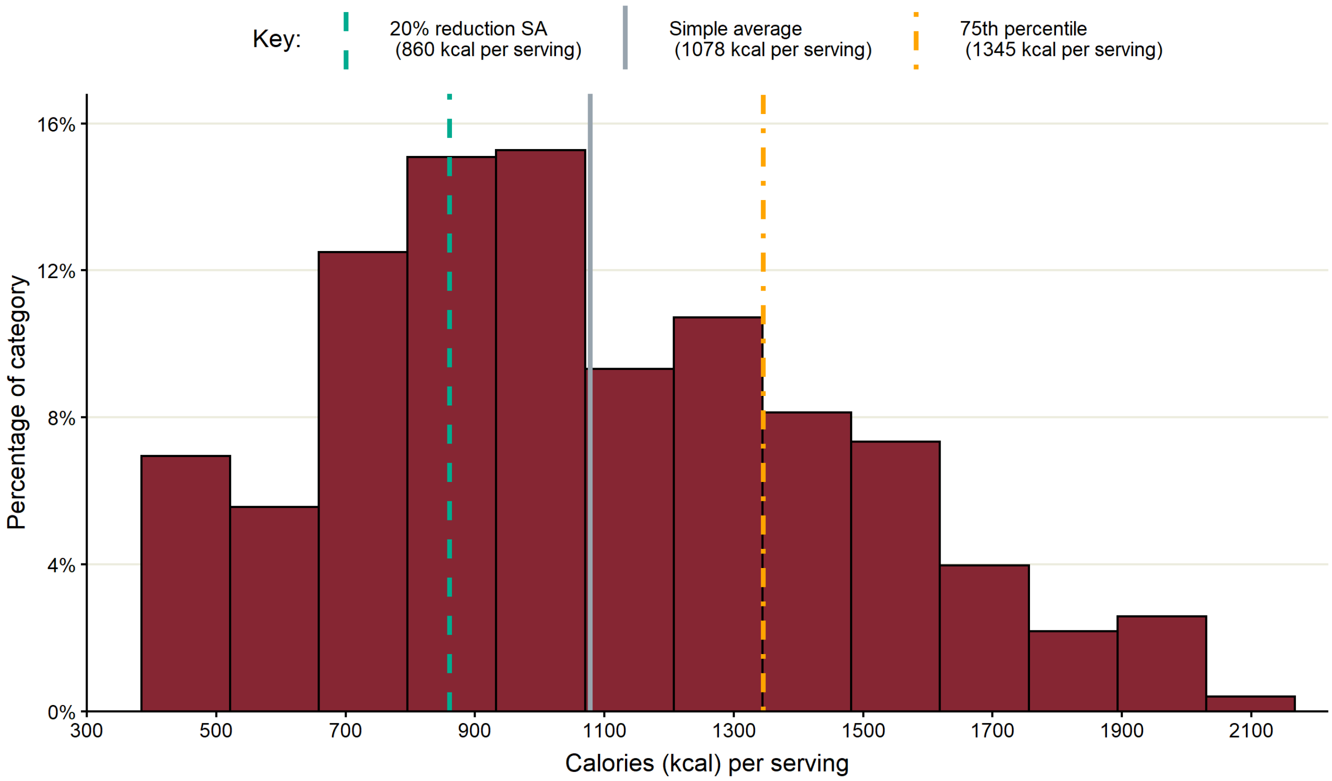
All proposed guideline values are rounded to the nearest 5 kcal

Summary of analysis to inform results: eating out, takeaway and delivery sector

Table 16: 2017/18 baseline simple average, range and guidelines in main meals for calories in products likely to be consumed in a single occasion for the eating out, takeaway and delivery sector

Metric	2017/18
Total calorie range (min and max kcals per serving)	384-2094
Simple average (kcals per serving)	1078
20% reduction SA (kcals per serving)	860
75th percentile (kcals per serve)	1345

Figure 13: Distribution of calories consumed in a single occasion in main meals – eating out, takeaway and delivery sector

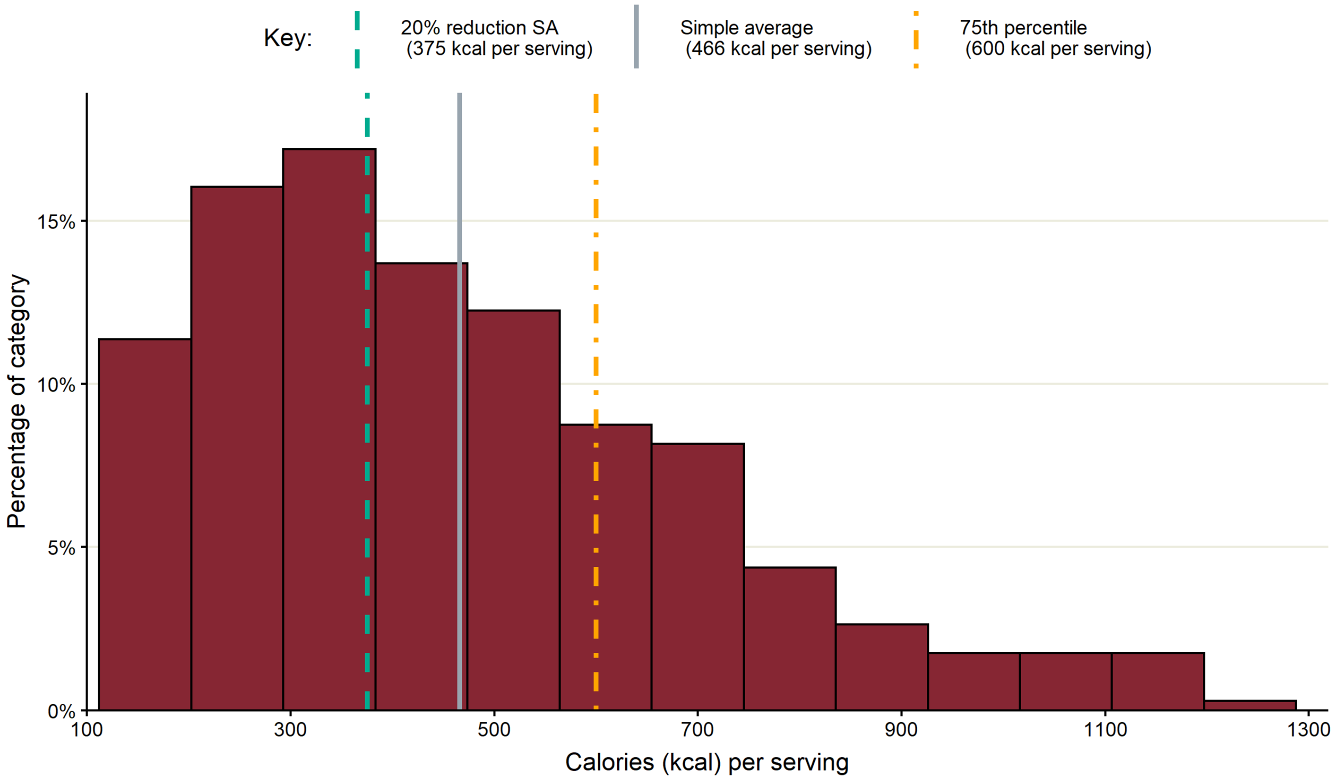


Note: the x-axis begins at 300 kcal per serving. All proposed guideline values are rounded to the nearest 5kcal

Table 17: 2017/18 baseline simple average, range and guidelines in starters and side dishes for calories in products likely to be consumed in a single occasion for the eating out, takeaway and delivery sector

Metric	2017/18
Total calorie range (min and max kcals per serving)	112-1231
Simple average (kcals per serving)	466
20% reduction SA (kcals per serving)	375
75th percentile (kcals per serve)	600

Figure 14: Distribution of calories consumed in a single occasion in starters and side dishes – eating out, takeaway and delivery sector

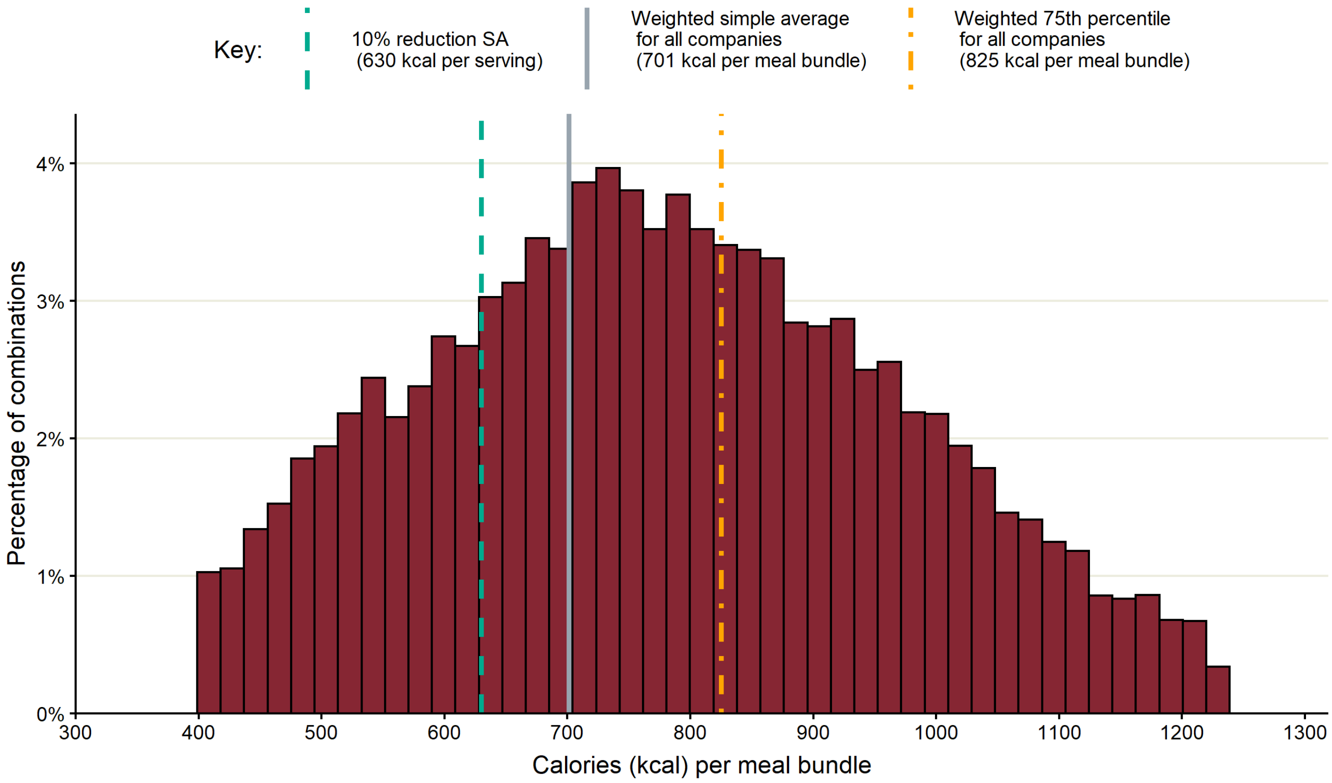


Note: the x-axis begins at 100 kcal per serving. All proposed guideline values are rounded to the nearest 5kcal.

Table 18: 2018 baseline simple average, range and guidelines in children's meal bundles for calories in products likely to be consumed in a single occasion for the eating out, takeaway and delivery sector

Metric	2018
Total calorie range (min and max kcals per serving)	399-1231
Weighted Simple average (kcals per serving)	701
Weighted 10% reduction SA (kcals per serving)	630
Weighted 75th percentile (kcals per serve)	825

Figure 15: Distribution of calories consumed in a single occasion in children's meal bundles – eating out, takeaway and delivery sector



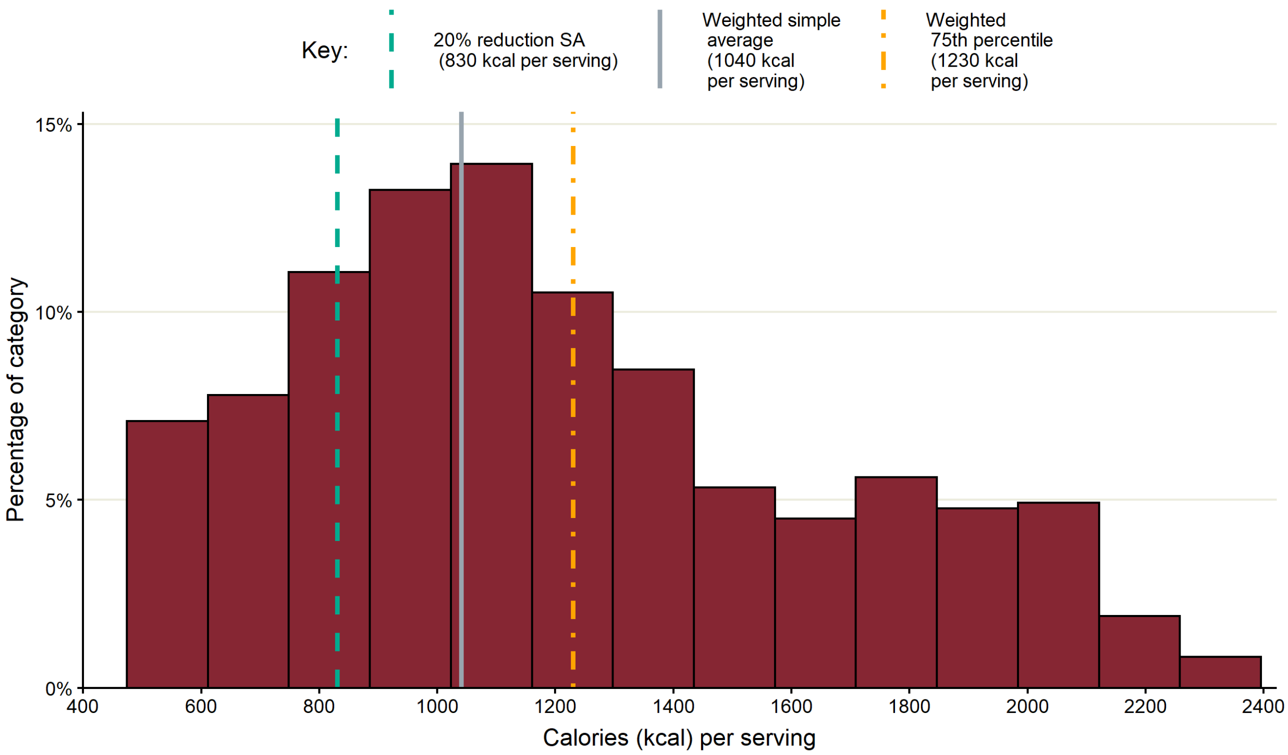
Note: the x-axis begins at 300 kcal per meal bundle. All proposed guideline values are rounded to the nearest 5kcal and metrics were based on business-weighted data

Summary of analysis to inform results: categories where guidelines have been set across all sectors

Table 19: 2017/18 baseline simple average, range and guidelines in pizzas for calories in products likely to be consumed in a single occasion for the eating out, takeaway and delivery sector

Metric	2017/18
Total calorie range (min and max kcals per serving)	474-2320
Simple average (kcals per serving)	1040
20% reduction SA (kcals per serving)	830
75th percentile (kcals per serve)	1230

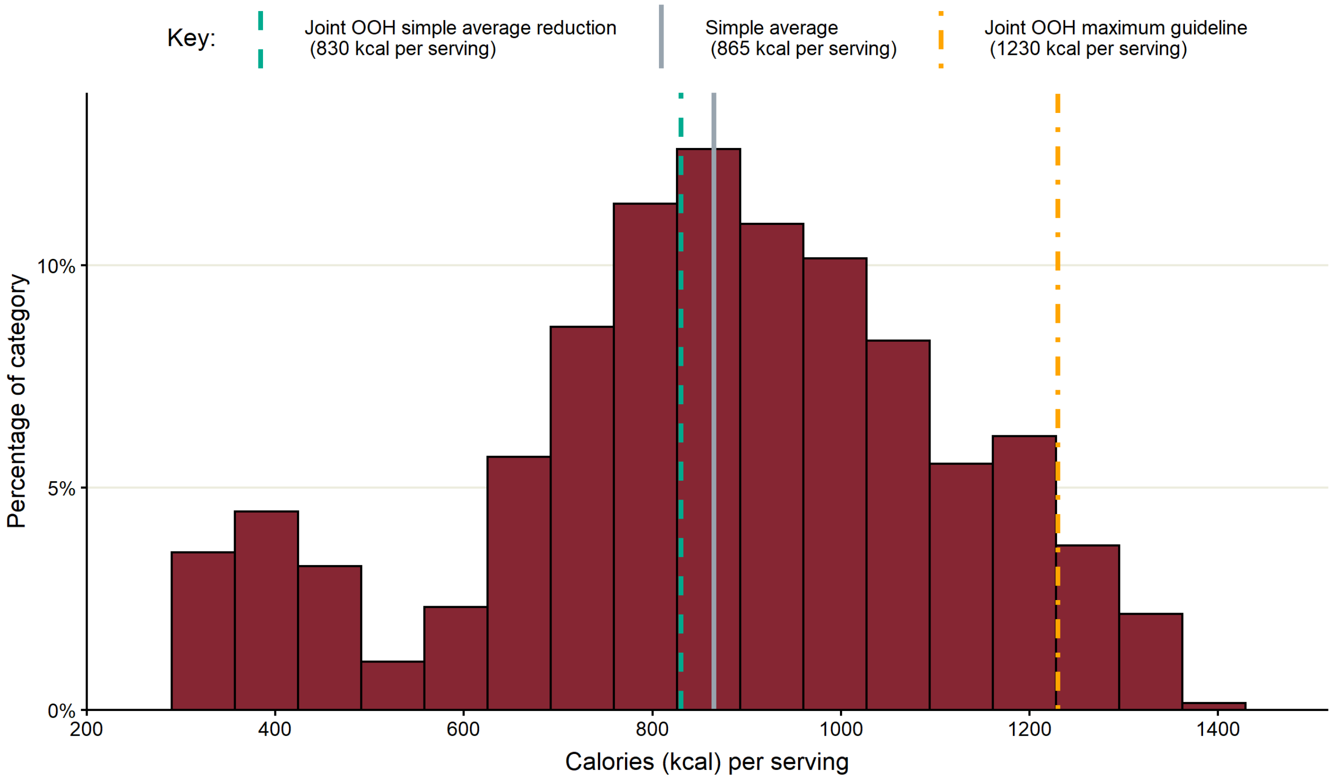
Figure 16: Distribution of calories consumed in a single occasion in pizzas – eating out, takeaway and delivery sector



Note: the x-axis begins at 400 kcal per serving. All proposed guideline values are rounded to the nearest 5kcal and metrics are based on business-weighted data.

The joint guideline for pizzas was developed based on data from the eating out, takeaway and delivery sector as shown above in figure 16. It was cross checked against the distribution for retailers and manufacturer branded products which is shown in figure 17.

Figure 17: Distribution of calories consumed in a single occasion in pizzas – retailers and manufactures

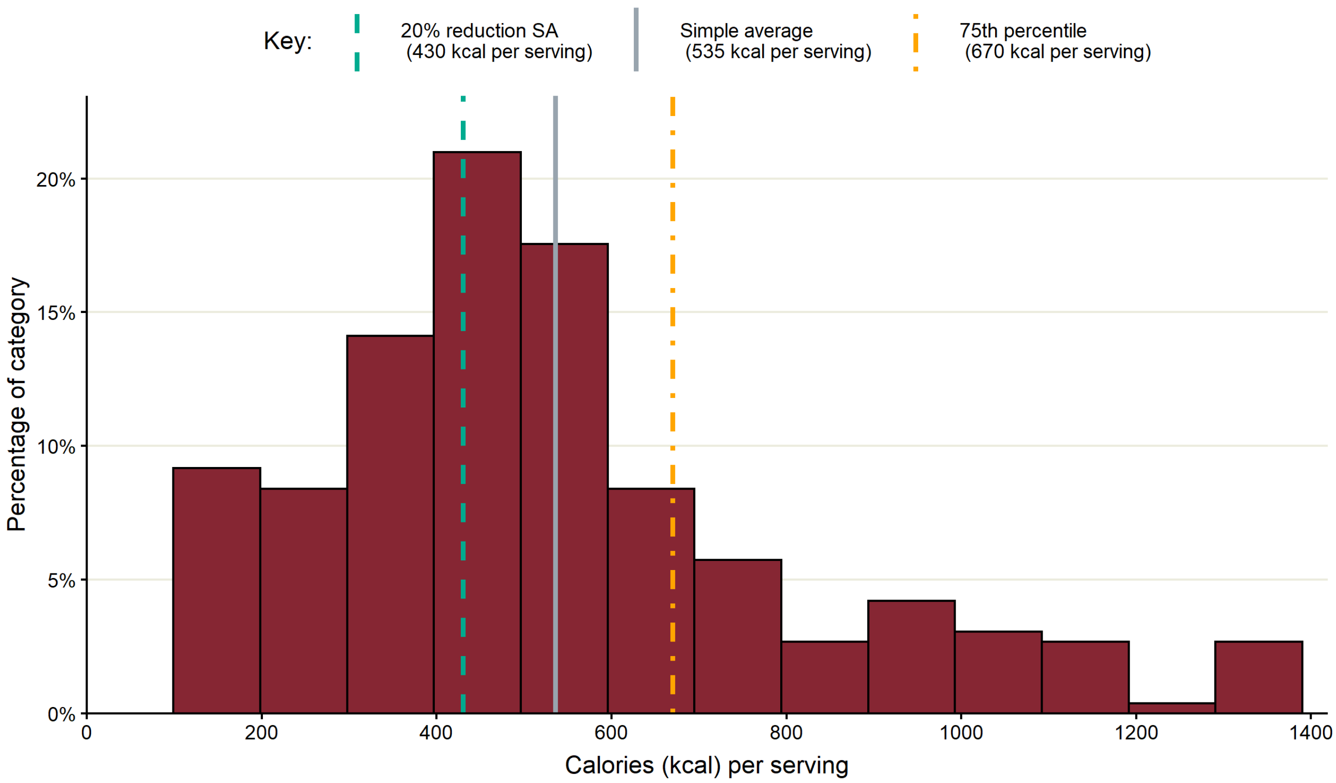


Note: the x-axis begins at 200 kcal per serving. Guidelines are joint with the eating out, takeaway and delivery sector and use simple averages. All proposed guideline values are rounded to the nearest 5 kcal.

Table 20: 2017 baseline simple average, range and guidelines in pastry products for calories in products likely to be consumed in a single occasion for the eating out, takeaway and delivery sector

Metric	2017
Total calorie range (min and max kcals per serving)	99-1384
Simple average (kcals per serving)	535
20% reduction SA (kcals per serving)	430
75th percentile (kcals per serve)	670

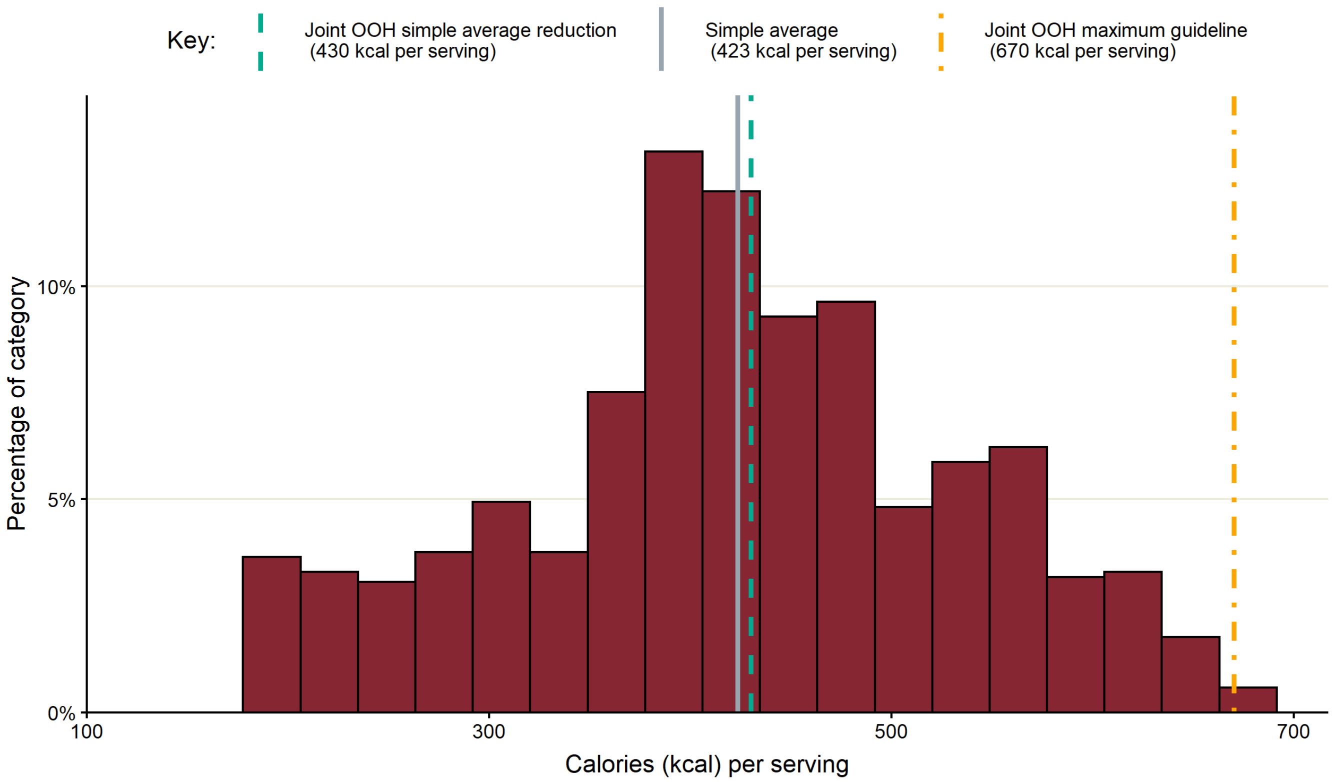
Figure 18: Distribution of calories consumed in a single occasion in pastry products – eating out, takeaway and delivery sector



Note: the x-axis begins at 100 kcal per serving. Guidelines are joint with the eating out, takeaway and delivery sector and use simple averages. All proposed guideline values are rounded to the nearest 5kcal.

The joint guideline for pastry products was developed based on data from the eating out, takeaway and delivery sector as shown above in figure 18. It was cross checked against the distribution for retailers and manufacturer branded products, which is shown in figure 19.

Figure 19: Distribution of calories consumed in a single occasion in pastry products – retailers and manufacturers

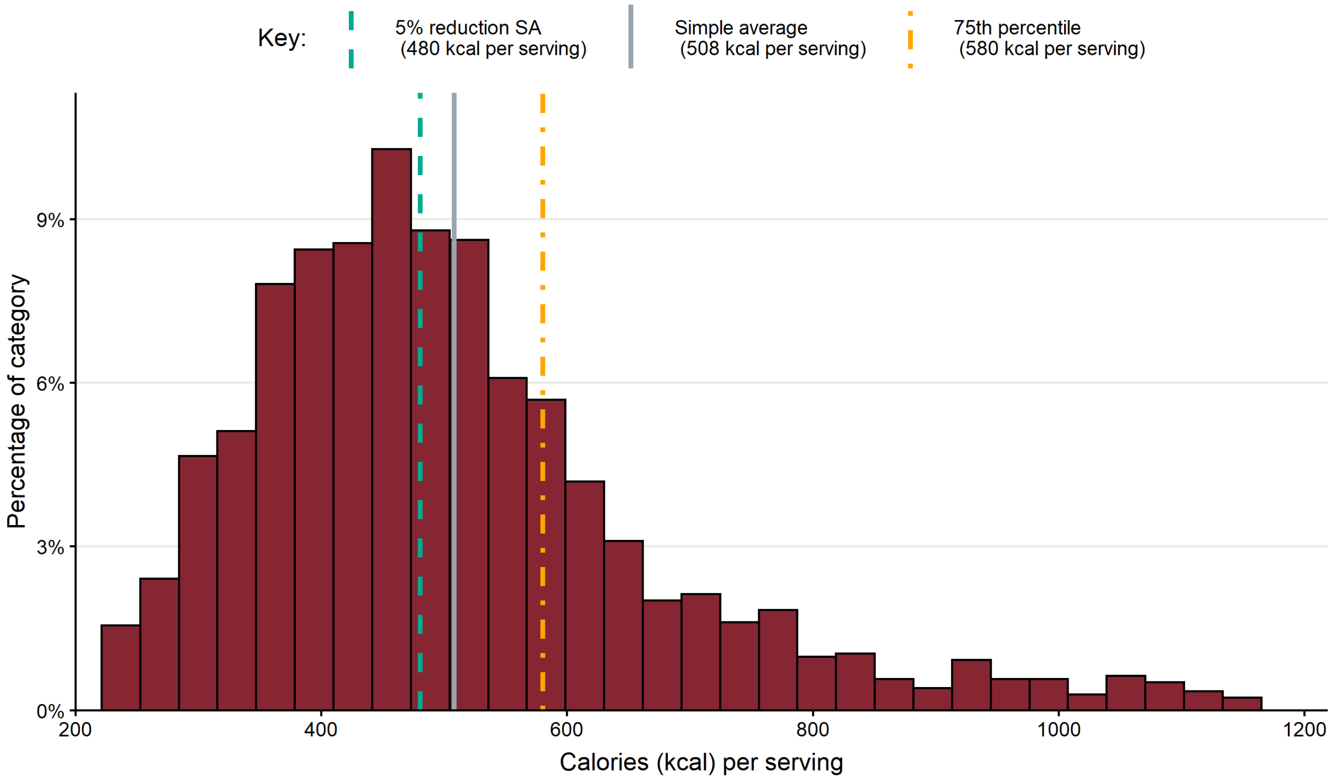


Note: the x-axis begins at 100 kcal per serving. Guidelines are joint with the eating out of home (OOH) sector and use simple averages. All proposed guideline values are rounded to the nearest 5kcal

Table 21: 2017/18 baseline simple average, range and guidelines in sandwich products for calories in products likely to be consumed in a single occasion for the eating out, takeaway and delivery sector including retailer 'food on the go'

Metric	2017/18
Total calorie range (min and max kcals per serving)	221-1141
Simple average (kcals per serving)	508
20% reduction SA (kcals per serving)	405
75th percentile (kcals per serve)	580

Figure 20: Distribution of calories consumed in a single occasion in sandwich products – eating out, takeaway and delivery sector including retailer 'food on the go'



Note: the x-axis begins at 200 kcal per serving. All proposed guideline values are rounded to the nearest 5kcal.

Sales weighted average

The SWA is calculated by weighting the calorie level of individual products by their volume sales. This means that a high selling product with high calorie levels drives the SWA upwards, whereas a high selling product with a low calorie level drives it downwards. PHE has used a SWA figure to establish a baseline for monitoring businesses progress in achieving the calorie reduction ambitions for retailers and manufactures or where data for this sector has been used to set joint guidelines, as for crisps and savoury snacks.

Where data allows, the best method is to account for volume sales as this would reflect if a business heavily promoted a product with high calorie levels in the overall average that is, it would show a smaller calorie reduction. Using a SWA across relatively broad food categories provides scope for businesses to continue to provide products with a range of calorie levels both on a per 100g and a calories per portion basis. The SWA should not be treated as a maximum as this would not be achievable for some products in each category. Using a SWA allows progress in at least 2 of the 3 mechanisms for action in the programme (reducing calorie levels in products and/or shifting purchasing towards lower calorie products) to be monitored.

Progress in the biggest selling products where the calorie levels are particularly high will be key to seeing a reduction in the SWA for the category and this is where businesses should, therefore, concentrate their efforts. This focus could be determined by using the SWA figure for total calories for each relevant category to identify the products to concentrate on (that is, products that are above this level). PHE will focus efforts on businesses whose products are among the top selling and have calorie levels above the SWA or provide more calories than the maximum set for the category in products likely to be consumed in a single occasion.

Simple average

Due to differences in the data available and the difficulty in using sales data, a simple average (arithmetic mean) was used for the calories per portion guidelines for the eating out, takeaway and delivery sector and for categories where joint guidelines have been set. This is a limitation and means that calories purchased in the eating out of sector cannot be compared with the retail and manufacturing sector and that the impact on overall sales on the number of calories being purchased in this sector cannot be assessed. See the section on data limitations in the eating out, takeaway and delivery sector for further information.

Weighting of data for pizza and children's meal bundles

For the pizza and children's meal bundle categories, some businesses have a large 'build your own' menu selection where a customer would have, for example, a wide range of pizza toppings or meal bundle items to choose from, leading to a large number of possible meal items that could be created. This results in some businesses being over represented in the analysis due to the number of meal variations available. To overcome this issue, particularly as simple averages were being used and the data could not be weighted by sales, weights were created based on the number of products that the company had in the category. This meant that all businesses were equally represented in the analysis as a business with a large number of menu items would be given a proportionally smaller weight versus a business with a small number of items given a proportionally larger weight.

Calories per portion

Products that are likely to be consumed by an individual at one time (calories per portion) have been identified for each category by reviewing the products available on the market and making pragmatic decisions about single serve portion sizes. These decisions have been sense checked against data on the weights of food eaten by individuals in the Years 7 to 8 NDNS survey. This information has been used to inform both maximum, SWA and simple average calorie per portion guidelines. An exception to this is for the chips and potato products and garlic/cheesy bread categories where retailer or manufacturer suggested portion size of key products in the category have been used to inform decisions. This is because products in these categories are generally sold in multipacks rather than discrete items.

Data sources

PHE has used a variety of data sources to provide the 2017 baseline and to inform its decisions regarding the calorie reduction programme. These include commercial consumer panel data from Kantar Worldpanel, MCA data, and nutrition information obtained from individual businesses or websites.

Contribution of different food groups to calorie consumption

The NDNS years 7 to 8 was used to assess the contribution of food categories to children's (up to the age of 18 years) and adult calorie intake. The categories covered by the guidelines account for around 14% of calorie intakes in children and 10% for adults.

Retailers and manufacturers

Estimates of calorie content by food category 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 continuously reporting panel of 30,000 households across Great Britain, who record details of all take home food and drink purchases, including volumes bought. 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 2017 dataset used for setting baseline levels for calorie reduction in relevant food categories covers the 52 weeks ending 10 September 2017, and includes total volume sales in kilograms/litres/servings and nutrition data for individual food products per 100g as well as details of pack size, number of products included in multipacks etc. Kantar Worldpanel aims to collect all nutrition data from food and drink labels on individual products via the use of fieldworkers who visit key retail stores and capture the information provided on packaging on a rolling 6-monthly basis. Some nutrition information is also collected from third party Brandbank. Where Kantar Worldpanel is able to do this, 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 (known as cloned) or an average value for the category or product type is calculated and used instead, designated as imputed data. For the analyses presented in this report, only real and cloned data have been used.

Data limitations – retailers and manufacturers

Kantar Worldpanel's fieldworkers go into stores to collect nutrition information on a rolling 6 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. In addition, if a reformulated product or a product that has reduced its portion size reaches the market towards the end of the reporting period, it is likely that the changes will not be reflected in that reporting year. This is because it takes time for the sales of a product to make an impact on the sales weighted average.

Eating out, takeaway and delivery sector

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) which record purchasing habits. 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. Nutrition data was collected from company websites during the summer of 2017 and was supplemented by information provided directly by individual businesses. If businesses provided 2018 data, this was used in the analysis instead of 2017 data. Any product items considered to be duplicates were removed. Duplicates had either been provided by businesses via different product menus or had been provided by both MCA and by individual businesses to PHE at different times in the data collection period (in this instance the information provided by the individual business was retained). Duplicate products were identified through searches for a perfect or partial match on product name, serving size and nutrition information. Data on sandwiches was collected from retailers during the summer of 2018 and the data on children's meal bundles was sourced from academic research (6).

Data limitations – eating out of home, takeaway and delivery sector

For the majority of products in the MCA data set, it is not possible to match collected or submitted nutrition data of an individual product to the purchases of that item, therefore the decision was taken to only use the nutrition data for this sector. This ensures that nutritional information is correctly ascribed to products and businesses. For this reason, it means that only a simple average can be calculated and PHE is unable to account for the impact of sales on the number calories available to purchase in the eating out, takeaway and delivery sector.

Additionally, mandatory nutrition labelling does not apply to foods sold in the eating out, takeaway and delivery sector, meaning that nutrition information and food composition data is not available for every product. PHE is reliant on businesses voluntarily providing adequate information on their websites or submitting their own data, therefore the information that is held is not necessarily reflective of the whole of the sector.

Quality Assurance

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 analyses. This has included:

- checking datasets for implausible values, and excluding those from the analysis
- quality assurance of category coding rules applied
- assessment of calorie content ranges and distributions to ensure plausibility
- contacting business data suppliers for updated information where systematic errors are discovered in their data returns
- independently replicating all results by a second analyst to check for methodological errors and all analytical code double checked

Reporting timelines

Detailed progress reports will be published biannually starting in 2022 until 2025. Progress reports will be based on data from the preceding years, for example August 2020 to September 2021 will inform the mid 2022 progress report.

A summary of reporting timelines is included in Appendix 3.

Appendix 2: Impact assessment of calorie availability

The analysis that informed the revised calorie reduction guidelines excluded the top and bottom 2.5% of products to avoid extreme values skewing the data. These have been reintroduced into this assessment to estimate the impact of achieving the calorie reduction guidelines on all products in the category.

Calories removed per 100g

The impact of the sales weighted average reduction guidelines was assessed by assuming that:

- all products reduce their calories per 100g value by the same proportion for the category to achieve this guideline and
- sales are unchanged.

Products to be consumed in a single occasion (calories per portion)

The assessment is a combination of the maximum calorie guidelines and either the sales weighted average (for in home retailers and manufacturer branded products) or simple average (for the eating out of home, takeaway and delivery sector and joint guidelines) reduction guidelines. This first assumes that all products achieve the maximum calorie guideline as in point (i) below, then calculates the percentage calorie reduction that products in the category will need to achieve to reach the sales weighted or simple average reduction guideline as in point (ii) below:

(i) The impact of the maximum calorie guidelines if all products were to achieve this guideline. This assumes products that are already below the maximum per serving guideline do not change their calories per serving and products currently above the guideline just meet the maximum guideline value.

(ii) The impact of the sales weighted average or simple average percentage reduction guidelines. This assumes that all products in the category reduce their calories per serving by the same proportion for the category to achieve this guideline and that sales remain unchanged.

Results

The three charts below (Figures 21, 22 and 23) illustrate the proportion of calories removed from the population's diet if the calorie reduction guidelines were achieved in full. For retailers and manufacturer branded products, the results are presented as a percentage reduction in calorie sales. Due to limitations with the eating out, takeaway and delivery sector, it is not possible to replicate the calculation on the total number of calories sold nor present an overall percentage change, therefore percentage change in calories is presented. When considering the results, particularly for the eating out, takeaway and delivery sector, it should be noted that the number of products in the categories may not be a true reflection of the number of products in the market. This is a particular issue for the eating out, takeaway and delivery sector where data provision is limited.

Figure 21: Percentage change in calorie sales if per 100g guidelines were achieved in full by retailers and manufactures (% reduction of SWA)

	% change
Breaded and battered products	-10.8
Chips and potato products	-9.7
Complete main meals	-11.5
Crisps and savoury snacks	-5.5
Family meals	-12.9
Garlic bread	-8.4

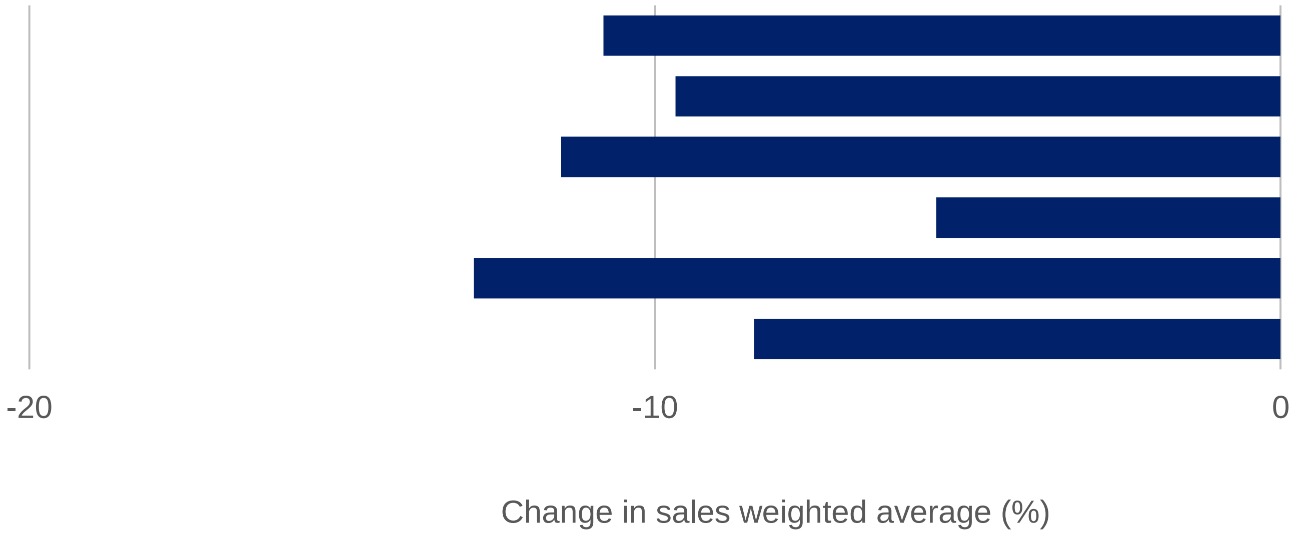


Figure 22: Percentage change in calorie sales if the calorie per portion guidelines were achieved in full by retailers and manufacturers

	% change
Overall	-6.8
Breaded and battered products	-10.1
Chips and potato products	-10.3
Complete main meals	-10.7
Crisps and savoury snacks	-4.2
Family meals	-8.7
Garlic bread	-11.0
Pastry products	0.0
Pizza – individual	-4.0

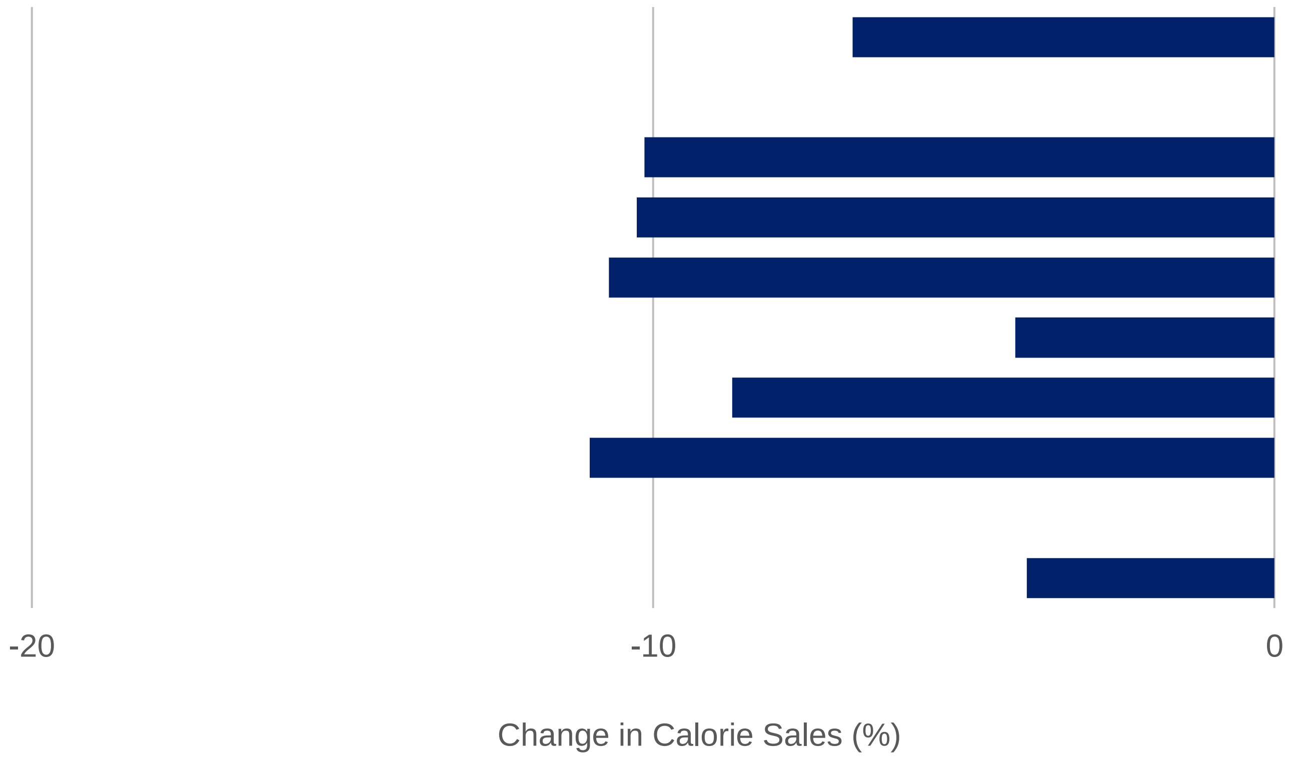
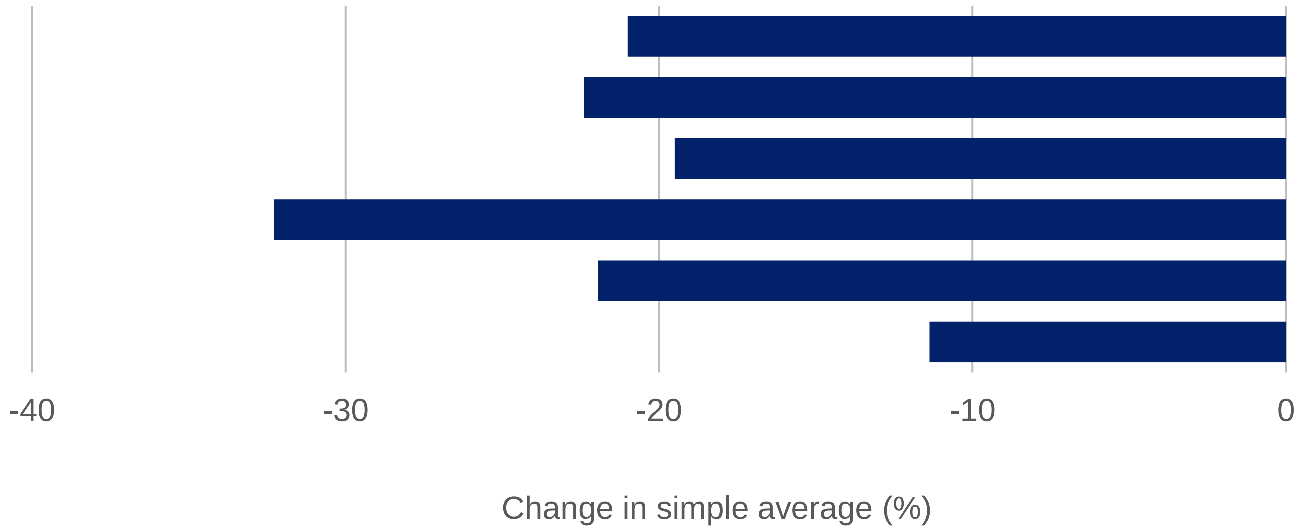


Figure 23: Percentage change in simple average kcals per serving if simple average and maximum calorie per portion guidelines were achieved by the eating out, takeaway and delivery sector

	% change
Main meal	-21.0
Starter or side dish	-22.4
Children's meals	-19.5
Pizza – individual	-32.3
Pastry products	-21.9
Sandwiches	-11.4



Appendix 3: Summary of reporting timelines for the calorie reduction programme

Date	Milestone
July 2020	Publish guidelines for calories
August 2020 to September 2021 (52 weeks)	Data collected through contracted suppliers for food consumed in and out of the home
November 2021	PHE receive data
2022	PHE publish a progress report on calorie reduction
August 2021 to September 2022	Data collected through contracted suppliers for food consumed in and out of the home
November 2022	PHE receive data
August 2022 to September 2023	Data collected through contracted suppliers for food consumed in and out of the home
November 2023	PHE receive data
2024	PHE publish a progress report on calorie reduction
August 2023 to September 2024	Data collected through contracted suppliers for food consumed in and out of the home
November 2024	PHE receive data
2025	PHE publish final progress report on calorie reduction

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