Public Health England

Protecting and improving the nation's health

Salt targets 2017: Second progress report

A report on the food industry's progress towards meeting the 2017 salt targets

September 2020

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Introduction

Public Health England (PHE) oversees the government's reduction and reformulation programme as set out in all chapters of the Childhood Obesity Plan. This report is about the food industry's progress on salt reduction.

The UK salt reduction programme drives reductions in the sodium content of foods. Sodium chloride is the main contributor to salt in the diet, and 1g sodium is equivalent to 2.5g salt. The term salt is used throughout the report but all analysis conducted is based on the sodium content of food.

Background to the UK salt reduction programme

In 2014, the Department of Health (now the Department of Health and Social Care) published salt reduction targets for foods for retailers, manufacturers and the eating out of home sector (for example, quick service restaurants, takeaway and meal delivery businesses) to be achieved by December 2017. These targets were originally developed under the Public Health Responsibility Deal, and were republished by PHE in 2017 when salt reduction became part of the wider reduction and reformulation programme that PHE oversees (1). These were the fourth set of published targets (2006, 2009, 2011 and 2014) (2-5) which have covered around 80 individual product categories.

Every update of the salt reduction targets was designed to drive gradual stepwise reductions in the salt content of foods, contributing to reducing average dietary salt intakes towards the recommended population average of 6g per day. The targets are intended to be stretching but achievable, and to achieve incremental salt reduction without people being affected so that everyday foods remained acceptable.

The original salt reduction targets were devised as a result of advice from the Scientific Advisory Committee on Nutrition (SACN), published in the 2003 report on *Salt and Health*, that a reduction in average adult salt intakes to 6g per day, with lower levels set for children, would lower population blood pressure levels and consequently reduce the risk of cardiovascular disease (6). The UK Food Standards Agency and Department of Health committed at that time to a programme encouraging the reformulation of foods to reduce salt content. The targets provided guidance to the food industry on the levels of salt that they should be aiming to achieve, and were set based on evidence including the salt content of foods (from food label data), major contributors to dietary salt intakes (from dietary survey and market share data), and estimates of dietary intake (from urinary analysis) (2). Additional information that was considered included reductions achieved to date, the function of salt in some products, the timing of reformulation cycles and the costs associated with reformulation.

In 2018, PHE published the first detailed assessment of the food industry's progress towards meeting the 2017 salt reduction targets (7), based on 2017 data. This report showed a mixed picture in relation to achievement of the 2017 targets. For foods purchased for consumption in-home (retailer own label and manufacturer branded products), just over half of average salt reduction targets were met. Where maximum targets were set, 80% of products overall met these targets. For the eating out of home sector, 70% of products overall were at or below maximum per serving targets. Only half of average targets were being met for foods in the 15 sub-categories contributing the most sodium to the diet.

In 2019, Government published the Prevention Green Paper *Advancing our health: prevention in the 2020s* and its ambition to reduce the population's salt intakes to 7 grams per day, and committed to publishing revised salt reduction targets in 2020 (8).

Dietary sodium intakes

The majority of salt in the diet comes from sodium naturally present in foods or added to foods in the production processes (9). Salt added to foods by individuals during cooking or when eating (discretionary salt) is hard to measure but has been estimated to make up approximately 15% to 20% of dietary salt intake (10-12). Using the year 7 and 8 (2014/15 to 2015/16) National Diet and Nutrition Survey (NDNS) dataset (13) which was coded to the 2017 salt target sub-categories (for more information see Appendix 1), and assuming discretionary salt contributes 18% of total salt intake, it was estimated that for the remaining salt in the diet, an additional 21% comes from sodium naturally present in foods, and about 61% from sodium in processed foods (about 54% from foods for which 2017 salt targets were set and about 7% from foods not included in salt target categories) (7). Further detail on dietary sodium sources can be found in the results section.

Average salt consumption for adults in 2018/19, measured from urinary analysis, was 8.4 grams per day. Trend analysis results show a statistically significant downward step-change in estimated salt intake between 2005/06 and 2008/09 but intakes remain higher than the recommended 6 grams per day and there were no significant step changes after 2008/09 (9).

2017 salt targets

The 2017 salt targets are set out in full in Appendix 1.

Targets for levels of salt in food and drink products include both average and maximum targets:

- average targets aim to lower the overall salt levels in a sub-category, while maintaining flexibility to allow for variation between individual products
- maximum targets stimulate businesses to look at products that are high in salt, benchmark them against competitors and make reductions

The main 2017 salt reduction targets cover 28 broad product categories comprising 76 sub-categories that contribute most to people's salt intakes and were to be achieved by December 2017. These targets apply across all sectors (retailers, manufacturers and the eating out of home sector). Average and maximum targets are set for sodium content per 100g of a food or drink.

The 28 categories of foods for which 2017 salt targets have been set are: meat products, bread, breakfast cereals, cheese, butter, fat spreads, baked beans, ready meals, soups, pizzas, crisps, cakes, sandwiches, table sauces, cook-in sauces, biscuits, pasta, rice, other cereals, puddings, quiche, scotch eggs, canned fish, canned vegetables, meat alternatives, processed potatoes, beverages and stocks and gravies. Details of the types of foods and drinks included in product categories and sub-categories, and the targets set can be found in Table 1, Appendix 1.

There are also separate 2017 salt reduction targets specifically for the eating out of home sector. These cover 11 product categories (24 sub-categories), based on the 10 most popular food groups purchased in the eating out of home sector: potato products, burgers, battered or breaded chicken, battered or breaded fish, pies, sauce-based main meals, meat-based main meals, sandwiches, pasta and pizza with the addition of a specific category for children's meals (see Table 2, Appendix 1). All out of home salt targets are set as a maximum per serving. These reflect the generally higher levels of salt in products than those that are bought to be eaten at home, due to the lack of action on salt reduction in the eating out of home sector at that time, and were intended to bring the salt content of products in that sector in line with the wider food industry.

This report provides the second detailed analysis of the salt content of foods for which salt reduction targets have been set, using 2018 data. It focuses on:

i) the extent to which average and maximum targets for all sectors have been met
ii) the extent to which targets set specifically for the eating out of home sector have been met
iii) the extent to which targets for foods contributing the most to dietary sodium intakes have been met

Methodology

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

In this report we refer to the ‘in-home’ and ‘out of home’ sectors. The ‘in-home’ sector refers to retailer own label and manufacturer branded food and drink products that are purchased primarily in a retail setting with the intention of them being prepared and consumed in the home. The ‘out of home’ sector refers to 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.

Data sources

In-home sector (retailer own label and manufacturer branded products)

The analysis for retailer own label and manufacturer branded products uses commercially available data from Kantar Worldpanel’s take home consumer panel. Products purchased by household panel members are recorded in the dataset, and this is then matched with nutrition information (derived from food labels) collected by Kantar Worldpanel fieldworkers, supplemented further with data purchased by Kantar Worldpanel from Brandbank and MySupermarket (14, 15). The dataset used in this analysis covers a 52-week period ending 9 September 2018.

Eating out of home sector

The analysis for the eating out of home sector uses a combination of nutrition information collected directly from businesses by PHE or obtained from company websites and menus by a contracted data provider, MCA (16).

Data for contract caterers has been removed from this analysis. 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.

National Diet and Nutrition Survey

Three or 4-day diet diary data from the most recent NDNS dataset collected between 2014/15 and 2015/16 (years 7 and 8) (13) was used to identify the 15 salt target sub-categories contributing the most sodium to the diet (on the basis of their percentage contribution).

Data analysis

Analysis of in-home and out of home data

All products in the in-home and out of home datasets were coded into salt target categories and sub-categories. Both datasets were coded into the main salt target sub-categories set for all sectors, and the out of home dataset was also coded into the eating out of home specific salt target sub-categories. A full data cleaning process was then undertaken, including the removal of duplicate products (for the out of home dataset), handling of outliers and implausible values, standardisation of nutrition information, and exclusion of imputed data (for Kantar Worldpanel data only). For the analysis of in-home data (that is, using data provided by Kantar Worldpanel) real and cloned data (where nutrition data is taken from a similar product) was used for the main summary analysis, but only real data was used when reporting the business level analysis. More details on the different types of data used is given in Appendix 2.

Once the data was ready for analysis, a descriptive analysis was conducted to examine the extent to which salt reduction targets had been met. High level summary results were produced to look at the proportions of average targets being met, and the proportions of products at or below maximum targets, within product categories. Separate analyses were then undertaken for each food sub-category where a salt target had been set.

2017 salt reduction targets were set in a range of ways, using sales weighted averages, simple averages, and maximum sodium values: and some product sub-categories have more than 1 type of target (for more information see Appendix 1). Please note that all analyses are conducted using sodium values but salt values are produced for reporting purposes using a standard conversion (sodium * 2.5 = salt). Metrics were produced to reflect data availability and the type of target, including average salt content (g/100g), ranges of total salt content (g/100g; g/serving), and the proportion of products that were at or below maximum targets.

The sales weighted average (SWA) is the salt content in g/100g calculated by weighting the salt content of each product in g/100g by its total sales volume in weight (kilogrammes). This metric gives more influence to products with higher sales and,

therefore, changes to the salt content of products with higher sales will have a greater impact on the SWA than changes for products with fewer sales. In the 2017 salt reduction targets and this report, SWAs are denoted by average r (range average).

The simple average is the arithmetic average of salt content in g/100g. Products are not weighted according to volume sales in this calculation, so it measures the average (mean) salt content of products regardless of how many are sold. In the 2017 salt reduction targets and this report, simple averages are denoted by average p (processing average).

In some tables, simple averages and sales weighted averages are presented together to examine the extent to which average targets have been met. Average targets are considered to have been met if the average salt content of foods is below or within 5% of the target. Achievements against maximum targets are assessed by calculating the proportion of products with salt content at or below the maximum target.

For the in-home sector, results for product sub-categories with fewer than 40 products available for analysis are not presented. For the eating out of home sector, results for product sub-categories with fewer than 20 products available for analysis are not presented.

Comparisons between 2017 and 2018 should also be treated with caution due to differing numbers and profile of products between the 2 years. Please also note that some 2017 figures have been revised for example due to coding amendments.

For the first time, business level analysis has been included in this report. For the in-home sector, results are presented for up to 15 businesses for each of the top 15 dietary sodium contributing salt reduction target sub-categories. Only ‘real’ data has been used in this analysis. For the eating out of home sector, results are presented for the top 10 businesses (based on estimated total salt sales).

Analysis of achievement of salt targets in the top sodium-contributing sub-categories

NDNS data was used to determine which 2017 salt target sub-categories contribute the most sodium to dietary intakes (based on NDNS years 7 and 8). NDNS food codes were mapped to the 2017 salt target sub-categories, and the percentage contribution to dietary sodium was calculated to identify the 15 contributing the most sodium to the diet.

Total salt sales

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

Results

This section presents results for both the in-home sector and the eating out of home sector. The results for the in-home sector are presented for retailer own brand and manufacturer branded products both separately and combined. The results are supplemented by detailed tables that accompany this report as a separate file. These detailed tables are described in Appendix 3.

Results are presented, where possible, for both 2017 and 2018 data. Results for 2017 were reported in a previous report (7). It should be noted that in some instances 2017 figures have been revised to reflect improvements in the methodology and may not match those previously reported.

All analysis conducted is based on the sodium content of food. For reporting purposes this is transformed into salt (for more details see the methodology sections) and salt is referred to throughout the rest of the report.

It should be noted that all results in this report are calculated using unrounded figures. It may therefore not be possible to calculate the figures in this report exactly from the results as seen in the remainder of this chapter.

Figure 1 sets the scene for the remainder of this report by highlighting the different food groups which make the most contribution to salt in the nation's diet. It shows the average daily salt intake among adults age 19 to 64 years from the National Diet and Nutrition Survey (NDNS) for years 7 and 8 combined (2014 to 2015 and 2015 to 2016). It shows that:

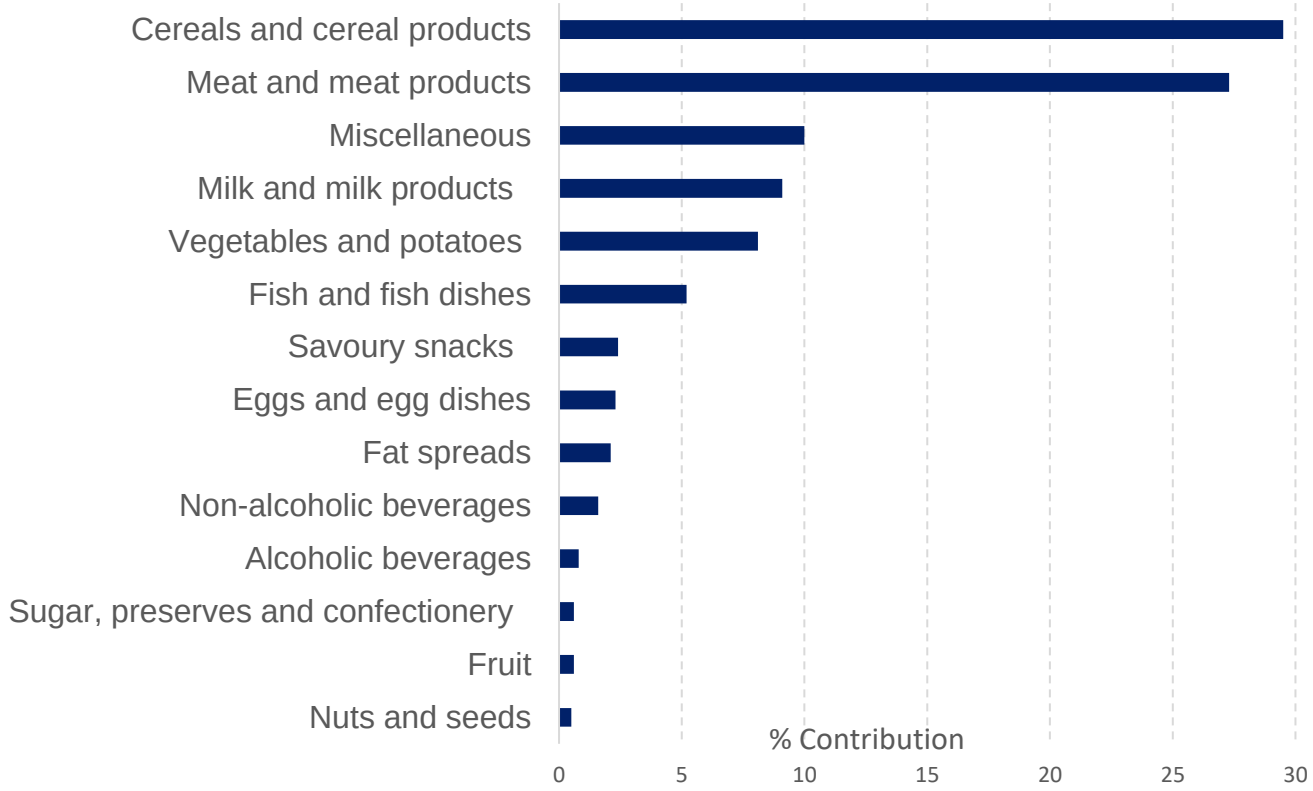
- the top 2 categories combined (cereals and cereal products and meat and meat products[i]) account for over half of an adult's average daily salt intake
- the 2 categories with the next highest contribution to dietary salt intake were miscellaneous products (10.0%) and milk and milk products (9.1%)[ii]

These results have remained broadly consistent since 2008.

[i] The cereals and cereal products category includes foods such as pasta, rice, pizza, bread, breakfast cereals, biscuits, cakes and pastries and puddings. The meat and meat products category includes foods such as bacon, ham, beef, chicken, burgers and kebabs, sausages and meat pies and pastries.
[ii] The miscellaneous category includes products such as beverage powders, soup, nutrition powders and drinks and savoury sauces, pickles, gravies and condiments. The milk and milk products category includes milk (including baby formula), cream, cheese, yogurts and fromage frais and ice-cream.

Sources of salt are generally similar for children and adults. Children get more salt from cereals, milk and savoury snacks compared with adults, and less salt from fish and foods in the miscellaneous category. Daily salt intake reported in this analysis is that naturally occurring in foods and from processed foods, but not added by individuals at the table or during cooking.

Figure 1: Percentage contribution of food groups to average daily salt intake for adults aged 19 to 64 years (NDNS years 7 and 8)[iii]



Achievement of 2017 targets set for all sectors for both 2017 and 2018

Average targets

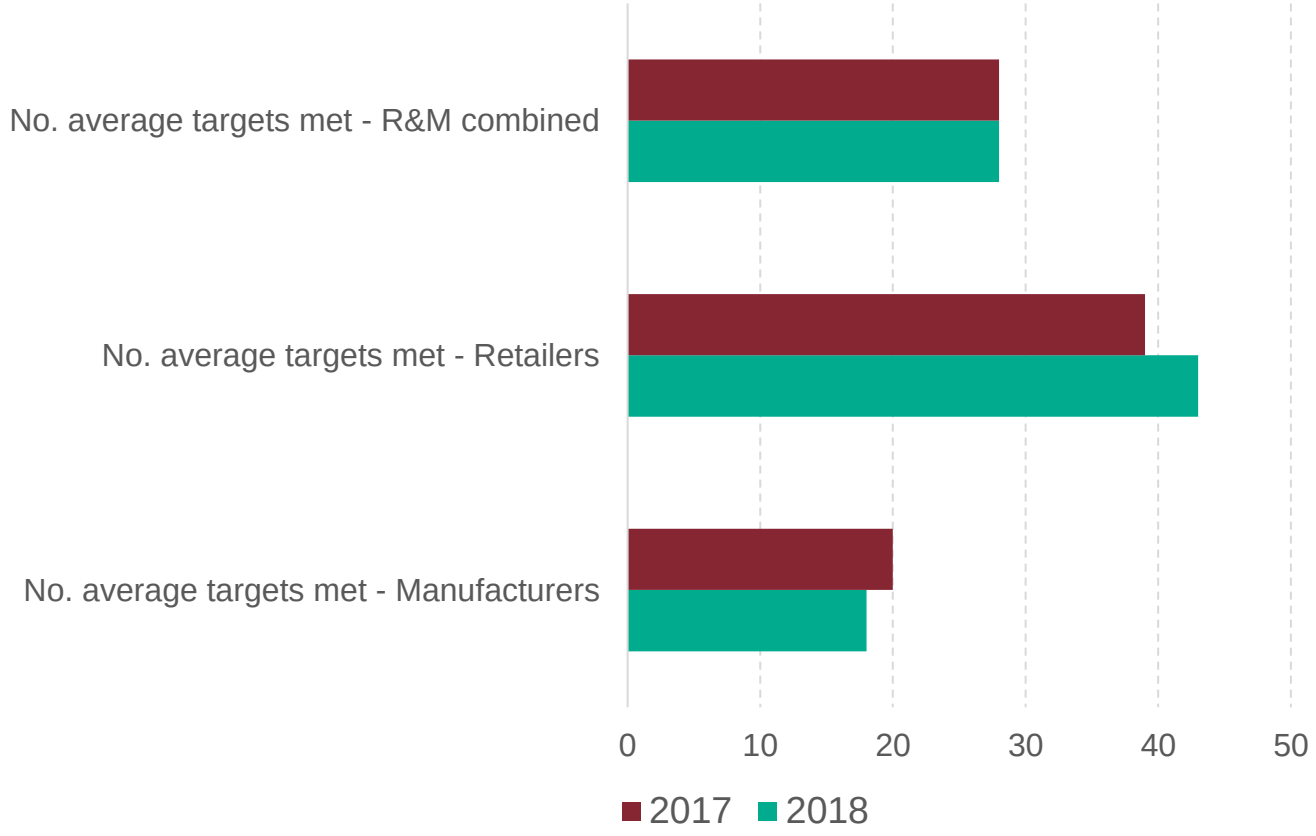
Figure 2 presents the summary of achievement of average salt targets for the 28 salt categories in the salt reduction programme for retailers and manufacturers separately and combined for both 2017 and 2018. Due to data limitations[iv] it was not possible to examine the extent to which the eating out of home sector was achieving average targets

[iii] The categories in this figure represent those used in the National Diet and Nutrition Survey (NDNS). These are different to the categories used in the salt reduction programme which are used elsewhere in this report.
[iv] It is not possible to link sales and nutrition data accurately for the eating out of home sector. More detail is given in Appendix 2.

(g salt per 100g) set for all sectors. Across the 76 sub-categories there are 57 average targets (52 of which were able to be looked at in this analysis) and they were considered to have been met if average salt values were below or within 5% of the target set. Figure 2 shows that:

- for retailers and manufacturers combined in 2018, 28 out of 52 average targets have been met, which is the same as 2017 (further information on specific categories is available in table 2 in the attached Excel file)
- for retailers in 2018, 43 out of 52 average targets have been met, which is an increase of 4 compared to 2017
- for manufacturers in 2018, 18 out of 52 average targets have been met, which is a reduction of 2 compared to 2017
- bread, baked beans, rice, other processed potatoes, crisps and snacks, breakfast cereals, butter, fat spreads, soups, pasta and quiche were categories where all the average targets have been met
- in contrast, only 1 of the 9 average targets for the meat products category has been met for retailers and manufacturers combined

Figure 2: Summary of achievement of average targets for retailers and manufacturers, separately and combined, 2017 and 2018



Maximum targets

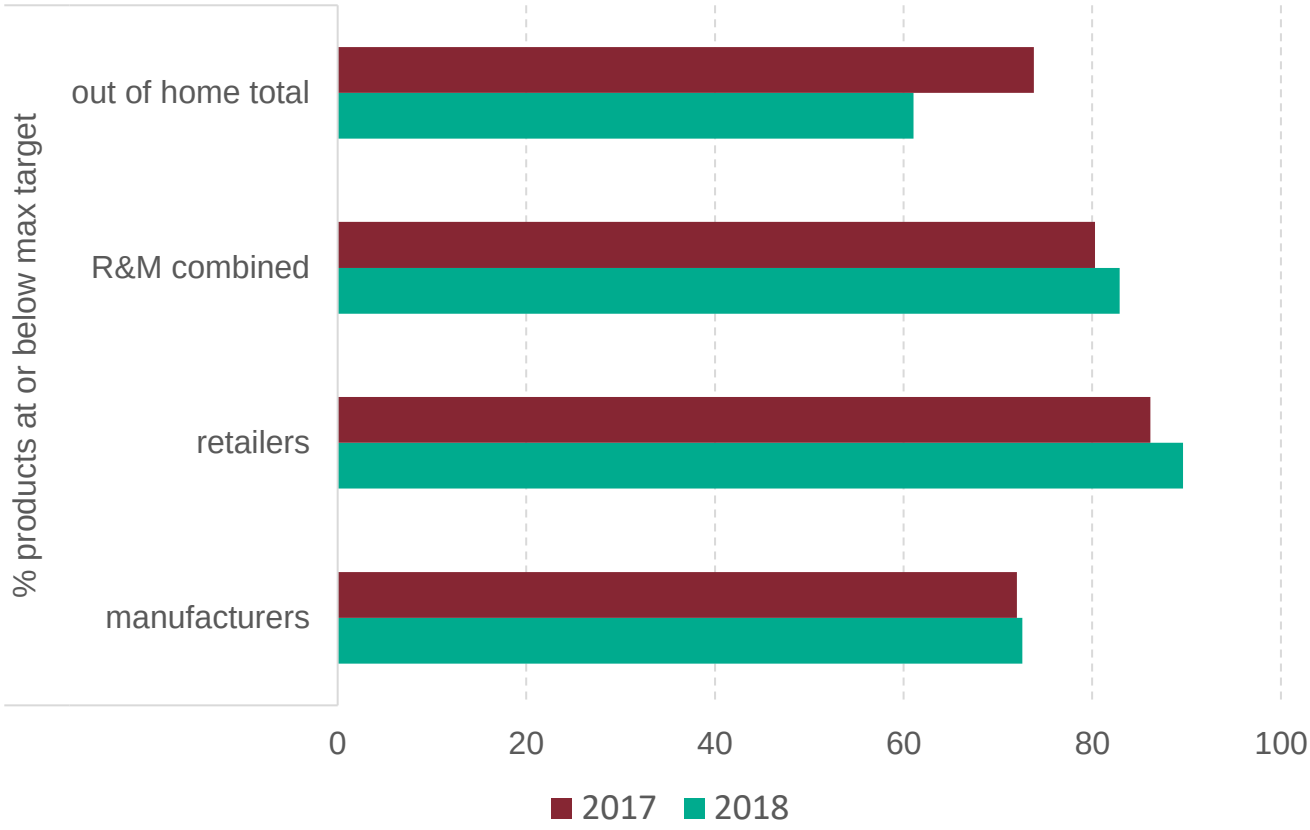
Figure 3 presents the proportion of products at or below maximum targets set for all sectors for retailers and manufacturers separately and combined and the eating out of home sector. Achievement against maximum targets was assessed by calculating the proportion of products with salt content at or below the maximum target. Maximum targets were set for 69 of the 76 product sub-categories. Further information on specific categories is available in table 3 in the associated Excel file. Figure 3 and table 3 show that:

- overall, for the in-home sector (retailers and manufacturers combined), there has been an increase of 3 percentage points in the proportion of products at or below the maximum salt targets in 2018 compared to 2017 (83% compared to 80%)
- this is largely due to an increase in the proportion of products from retailers at or below the maximum salt targets (90% compared to 86% in 2017) – for manufacturers, the proportion also increased slightly (73% compared to 72% in 2017)
- across the 69 sub-categories, the percentage of products at or below the maximum target in 2018 varies from 9% in the reformed whole muscle cooked uncured meat sub-category to 100% in the cheddar and other 'hard pressed' cheeses sub-category

For the eating out of home sector, sufficient data was available for analysis in 21 of the 69 product sub-categories with maximum targets per 100g. Comparisons are possible with the in-home sector overall, and with retailers and manufacturers separately for 19 sub-categories. The results of this analysis should be interpreted with caution as information is available on fewer products in the eating out of home sector as compared with retailers and manufacturers. Figure 3 and table 3 show that:

- for the eating out of home sector, the percentage of products at or below the maximum target set for all sectors (in 21 sub-categories) was 61% in 2018 compared to 74% in 2017
- for the 19 sub-categories where results are presented for both sectors, 86% of in-home products (retailers and manufacturers combined) were at or below their respective maximum targets, compared with 58% for out of home products
- of these 19 sub-categories, 2 showed a higher percentage of products at or below the maximum target for the eating out of home sector compared to the in-home sector while 17 had a lower percentage
- of the sub-categories where the eating out of home sector showed a lower percentage of products at or below the maximum salt target, pizza, all other processed puddings and bread rolls with and without additions show a difference of close to 40 percentage points, with pastries showing a difference of about 70 percentage points (though results should be treated with caution due to the different number of products used in the analysis in each year)

Figure 3: Proportion of products at or below maximum targets set for all sectors (salt per 100g) for the out of home sector compared with manufacturers and retailers separately and combined in 2017 and 2018



Achievement of 2017 salt targets for main contributors to salt in the diet

The analysis presented so far has looked at all categories and sub-categories. This following section is restricted to those categories which contribute the most to salt intakes. NDNS data was used to identify the 2017 salt reduction target categories that contribute the most salt to the average adult daily intake and data from Kantar Worldpanel and MCA was then used to examine progress towards meeting these targets.

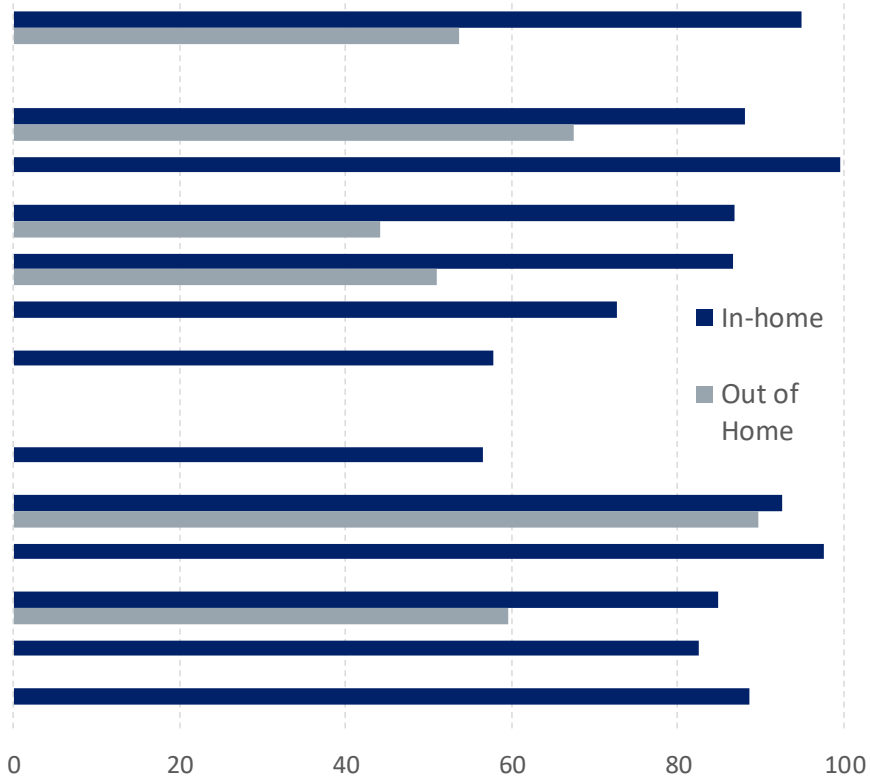
Figure 4 shows the achievement against the average and maximum targets set for all sectors for the top 15 sub-categories contributing to dietary salt intakes for the in-home sector, and achievement against the maximum targets set for all sectors for the eating out of home sector. Figure 4 shows that:

- the sub-categories are presented in the order in which they contribute to daily salt intake - the bread and rolls sub-category contributes the most salt to the diet (with 14%), bacon contributes the next highest proportion with 4.1%, stocks (the 15th highest sub-category) contributes on average 1.2% of a person's daily salt intake

- for the in-home sector, out of the 14 average salt targets set, 7 were met in 2018 (including bread and rolls, cheddar and other ‘hard pressed’ cheeses and standard potato crisps) which is consistent with the results reported for 2017
- for the 13 maximum targets the proportion of in-home sector products at or below the maximum target ranged from 100% in the cheddar and other ‘hard pressed’ cheeses sub-category to 56% in the sausages sub-category
- for the eating out of home sector, results are presented for 6 sub-categories where there is sufficient data; the proportion of products at or below the maximum target ranges from 90% in the sweet biscuits sub-category to 44% in the all pizzas sub-category

Figure 4: Achievement of average and maximum targets for the top 15 dietary salt contributing salt target sub-categories

	Average target met?	% products at or below max target In-home	Out of Home
2.1 Bread and rolls	Yes	95	54
1.1 Bacon	No	n/a	n/a
8.1 Ready meals and meal centres	No	88	68
4.1 Cheddar and other hard cheeses	Yes	100	*
10.1 All pizzas (as consumed)	No	87	44
9.1 Soups (as consumed)	Yes	87	51
5.1 Salted butters and buttery Spreads	Yes	73	*
7.1 Baked beans in tomato sauce	N/A	58	*
1.2 Ham/other cured meats	No	n/a	n/a
1.3.1 Sausages	No	56	*
16.1 Sweet biscuits	No	93	90
3.1 Breakfast cereals	Yes	98	*
11.1 Standard potato crisps	Yes	85	60
15.1 All cook in and pasta sauces	Yes	83	*
28.1 Stocks (as consumed)	No	89	*



Achievement of 2017 targets for the eating out of home sector

Maximum per serving targets were set in 24 sub-categories specifically for the eating out of home sector. Achievement against maximum targets was assessed by calculating the proportion of products with salt content at or below the maximum target. Further information on specific categories is available in table 7 in the associated Excel file.

- overall, for the eating out of home sector, there has been an increase of 4 percentage points in the proportion of products at or below the maximum salt targets in 2018 compared to 2017 (74% compared to 70%)
- across the 24 sub-categories, the percentage of products at or below the maximum target varies from 35% in the burgers with cured meats sub-category to 88% in the seasoned chips and takeaway pizza with cured meat toppings sub-categories

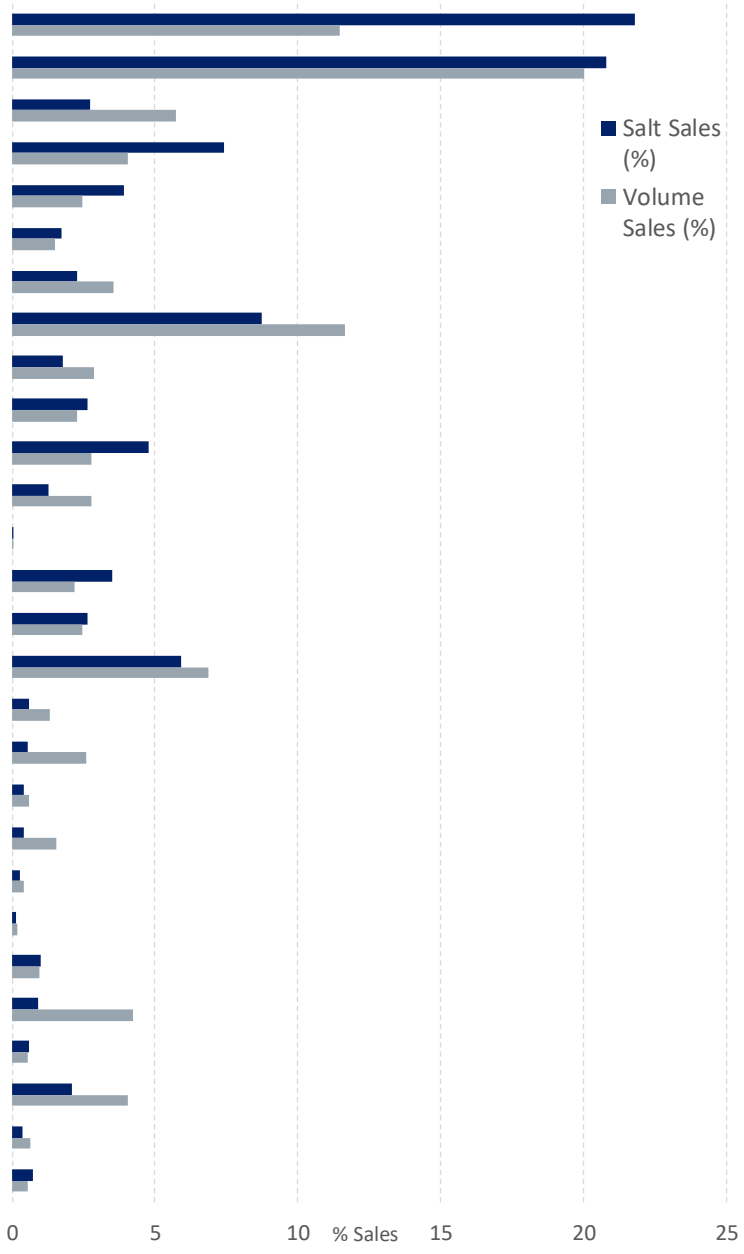
Volume sales of retailer own brand and manufacturer branded products

Figure 5 presents the percentage of total volume sales and associated salt sales of each salt reduction category for the in-home sector (retailer own brand and manufacturer branded products combined). Figure 5 shows that:

- Just 3 categories make up nearly half the volume sales for products that are part of the salt reduction programme (meat products, bread and ready meals account for 43% of volume sold)
- These 3 categories also account for more than 50% of the total salt sales. Cheese and biscuits account for the next highest volume of total salt sold. All other categories account for less than 5% respectively
- In total, there were nearly 9,000,000 tonnes of products sold in 2018 in these 28 categories, and around 80,000 tonnes of this were salt

Figure 5: Proportion of total volume sales and total salt sales for the in-home sector by category (% of tonnes sold)

	Salt Sales (%)	Volume Sales (%)
1. Meat Products	22	11
2. Bread	21	20
3. Breakfast Cereal	3	6
4. Cheese	7	4
5. Butter	4	2
6. Fat Spreads	2	1
7. Baked Beans	2	4
8. Ready Meals	9	12
9. Soups	2	3
10. Pizzas	3	2
11. Crisps and Snacks	5	3
12. Cakes and Pastries	1	3
13. Sandwiches	0	0
14. Table Sauces	3	2
15. Cook-in Sauces	3	2
16. Biscuits	6	7
17. Pasta	1	1
18. Rice	1	3
19. Other Cereals	0	1
20. Processed Puddings	0	2
21. Quiche	0	0
22. Scotch Eggs	0	0
23. Canned Fish	1	1
24. Canned Vegetables	1	4
25. Meat Alternatives	1	1
26. Other Processed Potatoes	2	4
27. Beverages	0	1
28. Stocks and Gravies	1	1



In addition to the data presented here, more detailed information for all categories and sub-categories in both the in-home and eating out of home sectors (including business level information) is available in the detailed tables which accompany this report. The contents of each table can be seen in Appendix 3.

Progress at business level

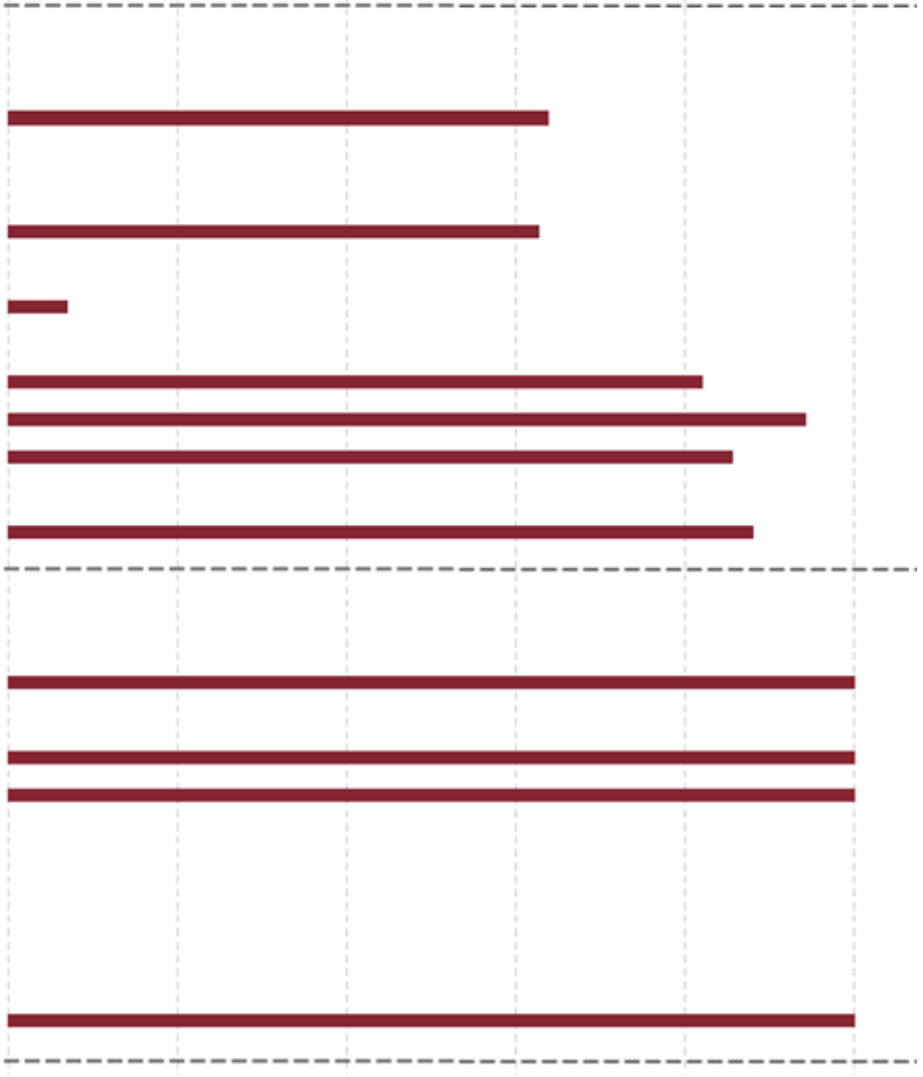
An overview of the data for individual businesses for the in-home sector can be seen in figure 6 below. The length of the bars represents the proportion of products in each sub-category which were below the maximum target. Businesses are presented in alphabetical order and are only shown if cumulatively they account for the top 80% of salt sales and have at least 1% of the sub-category's total salt sales (no more than 15 businesses are shown). Please note that results are also shown only for the 15 sub-categories that contribute the most salt to an average adult's dietary intake. Due to data constraints, equivalent analysis was not able to be reproduced for the eating out of home sector. A table presenting the percentage of products at or below the maximum targets for the top out of home businesses (based on total salt sales) is available in the associated Excel file.

Figure 6: Business level overview (based on the 15 sub-categories that contribute the most salt to an average adult's dietary intake)

	Simple Average salt content (g/100g)	No. products in category	% products at or below max target
1.1 Bacon - Av. Target 2.88g/100g, Max. Target N/A			
Aldi Stores Ltd	*	*	*
Asda Stores Ltd	*	*	*
J Sainsburys	3.14	50	n/a
Lidl UK GMBH	*	*	*
Marks and Spencer	*	*	*
Morrisons Ltd	*	*	*
Tesco Food Stores Ltd	*	*	*
Waitrose Ltd	*	*	*
1.2 Ham/other cured meats - Av. Target 1.63g/100g, Max Target N/A			
Aldi Stores Ltd	*	*	*
Asda Stores Ltd	1.80	51	n/a
C.W.S. (Co-op)	*	*	n/a
Cranswick Plc	*	*	n/a
Forza AW Limited	1.96	15	n/a
J Sainsburys	1.90	83	n/a
Lidl UK GMBH	*	*	n/a
Marks and Spencer	2.00	30	n/a
Matthews Norfolk Farms	2.24	8	n/a
Morrisons Ltd	*	*	n/a
Princes Ltd	2.24	13	n/a
Tesco Food Stores Ltd	1.63	66	n/a
The Orgnl Welsh Pantry Co	*	*	n/a
Tulip Meat Co. Ltd	2.58	8	n/a
Waitrose Ltd	*	*	n/a

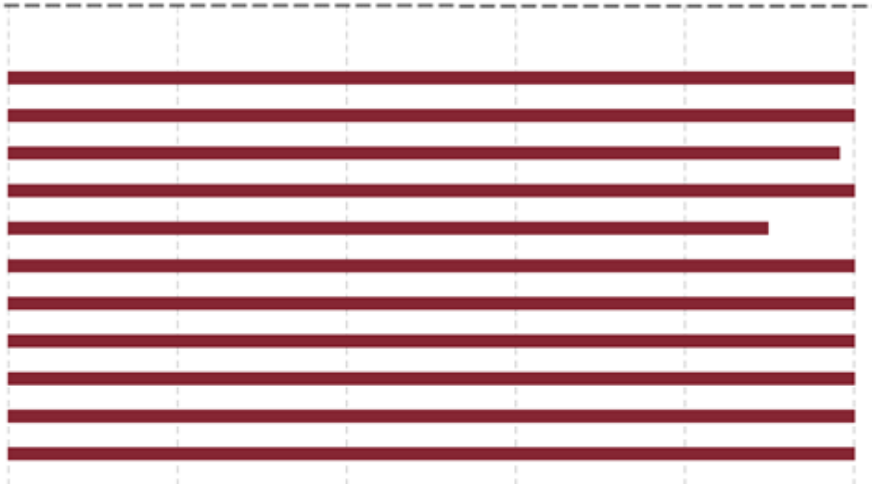
1.3.1 Sausages - Av. Target 1.13g/100g, Max Target 1.38g/100g			
Aldi Stores Ltd	*	*	*
Asda Stores Ltd	1.29	47	63.8
C.W.S. (Co-op)	*	*	*
Iceland Frozen Foods	*	*	*
J Sainsburys	1.31	62	62.9
Jgre Ltd	1.67	21	0
Kerry Foods	2.00	42	7.1
Lidl UK GMBH	*	*	*
Marks and Spencer	1.25	28	82.1
Morrisons Ltd	1.17	35	94.3
Tesco Food Stores Ltd	1.19	63	85.7
Vion	1.40	2	0
Waitrose Ltd	1.20	25	88

2.1 Bread and rolls - Av. Target 0.9g/100g, Max Target 1.13g/100g			
Aldi Stores Ltd	*	*	*
Allied Bakeries Ltd	0.92	37	100
Asda Stores Ltd	*	*	*
C.R.S. (Co-op)	0.78	8	100
Hovis Ltd	0.92	23	100
J Sainsburys	*	*	*
Lidl UK GMBH	*	*	*
Marks and Spencer	*	*	*
Morrisons Ltd	*	*	*
Tesco Food Stores Ltd	*	*	*
Warburtons Bread Ltd	0.96	64	100



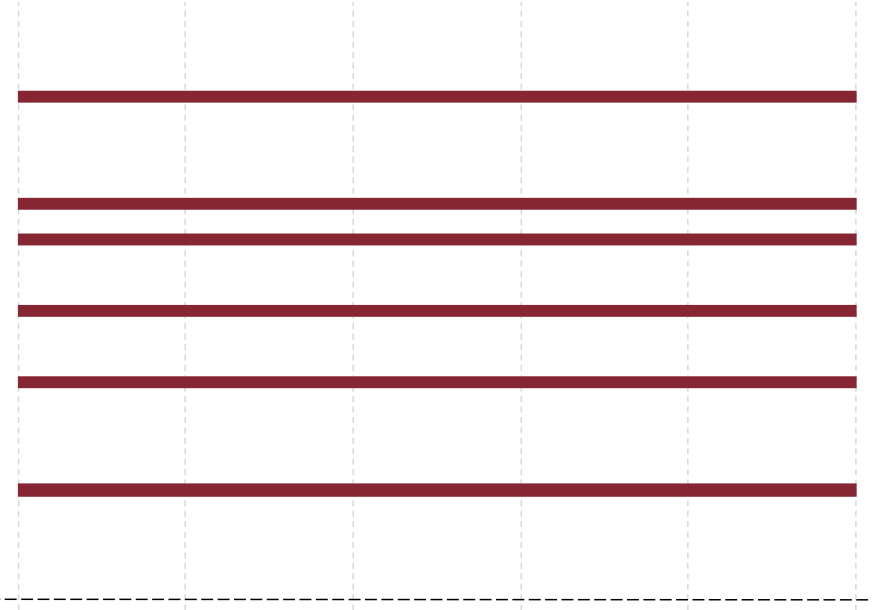
3.1 Breakfast cereals - Av. Target 0.59g/100g, Max Target 1.00g/100g

Aldi Stores Ltd	0.29	51	100
Asda Stores Ltd	0.25	103	100
Cereal Partners	0.56	56	98.2
J Sainsburys	0.22	88	100
Kellogg Co.of G B Ltd	0.68	98	89.8
Lidl UK GMBH	0.29	40	100
Morrisons Ltd	0.22	53	100
Quaker Oats Ltd	0.17	92	100
Tesco Food Stores Ltd	0.29	95	100
Waitrose Ltd	0.24	42	100
Weetabix Ltd	0.23	50	100

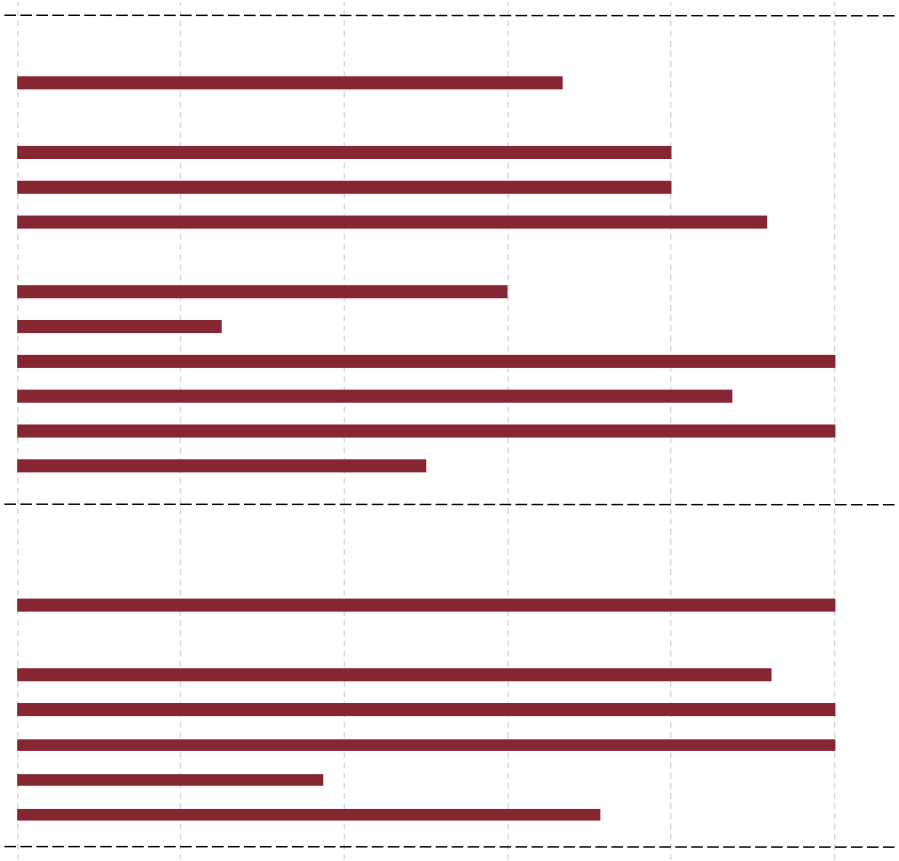


4.1 Cheddar & 'hard-pressed' cheese-Av. Target 1.75g/100g, Max Target 2g/100g

Aldi Stores Ltd	*	*	*
Arla Foods	1.82	12	100
Asda Stores Ltd	*	*	*
C.W.S. (Co-op)	*	*	*
Dairy Crest Ltd	1.80	24	100
Fromagerie Bel Paris	1.80	5	100
J Sainsburys	*	*	*
Kerry Foods	1.95	10	100
Lidl UK GMBH	*	*	*
Marks and Spencer	1.68	43	100
McLelland & Son Ltd	*	*	*
Morrisons Ltd	*	*	*
Ornua Foods	1.78	13	100
Tesco Food Stores Ltd	*	*	*
Waitrose Ltd	*	*	*

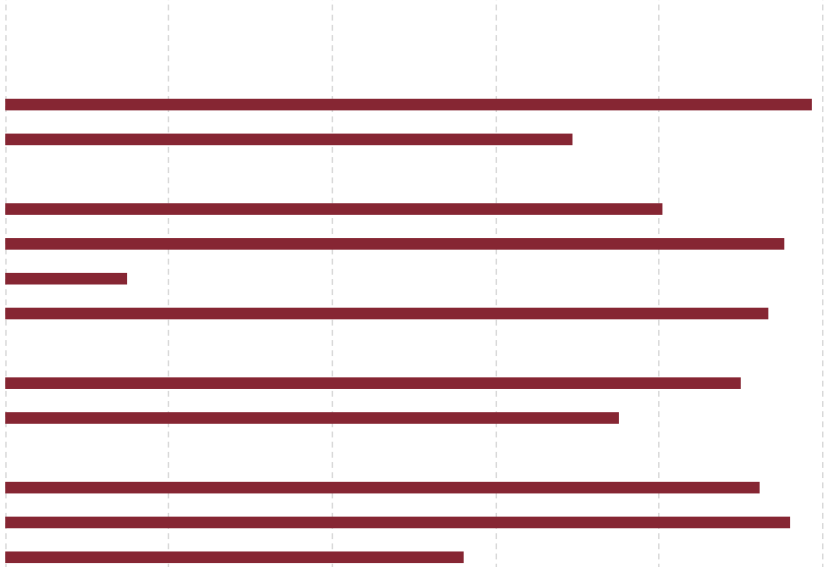


5.1 Salted butters and spreads - Av. Target 1.48g/100g, Max Target 1.68g/100g			
Aldi Stores Ltd	1.53	6	66.7
Arla Foods	*	*	*
Asda Stores Ltd	1.17	10	80
Dairy Crest Ltd	1.57	10	80
J Sainsburys	1.36	12	91.7
Lidl UK GMBH	*	*	*
Morrisons Ltd	1.51	5	60
Ornua Foods	1.70	4	25
Raisio	1.10	3	100
Tesco Food Stores Ltd	1.41	8	87.5
Upfield	1.32	23	100
Waitrose Ltd	1.53	4	50
7.1 Baked beans in tomato sauce - Av. Target N/A, Max Target 0.56g/100g			
Aldi Stores Ltd	*	*	*
Asda Stores Ltd	0.41	8	100
H.J. Heinz Co. Ltd	*	*	*
J Sainsburys	0.48	13	92.3
Lidl UK GMBH	0.45	3	100
Morrisons Ltd	0.49	5	100
Princes Ltd	0.65	8	37.5
Tesco Food Stores Ltd	0.51	7	71.4



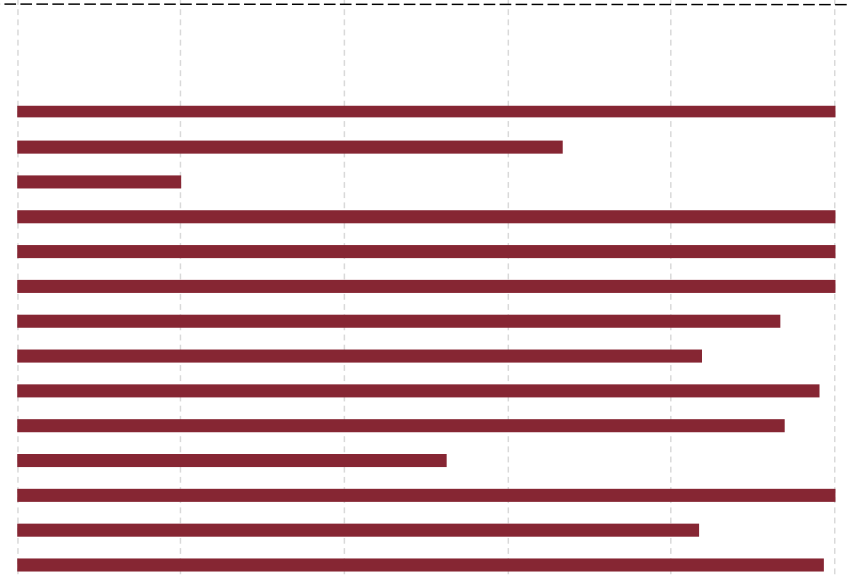
8.1 Ready meals & meal centres - Av. Target 0.63g/100g, Max Target 0.95g/100g

Aldi Stores Ltd	*	*	*
Asda Stores Ltd	0.51	787	98.6
Birds Eye Ltd	0.83	127	69.3
C.W.S. (Co-op)	*	*	*
Iceland Frozen Foods	0.71	179	80.4
J Sainsburys	0.59	647	95.2
Kepak UK Ltd	1.16	47	14.9
Kerry Foods	0.56	61	93.4
Lidl UK GMBH	*	*	*
Marks and Spencer	0.65	525	89.9
Matthews Norfolk Farms	0.78	16	75
Morrisons Ltd	*	*	*
Tesco Food Stores Ltd	0.59	944	92.2
Waitrose Ltd	0.55	321	96
Youngs BlueCrest	0.87	82	56.1



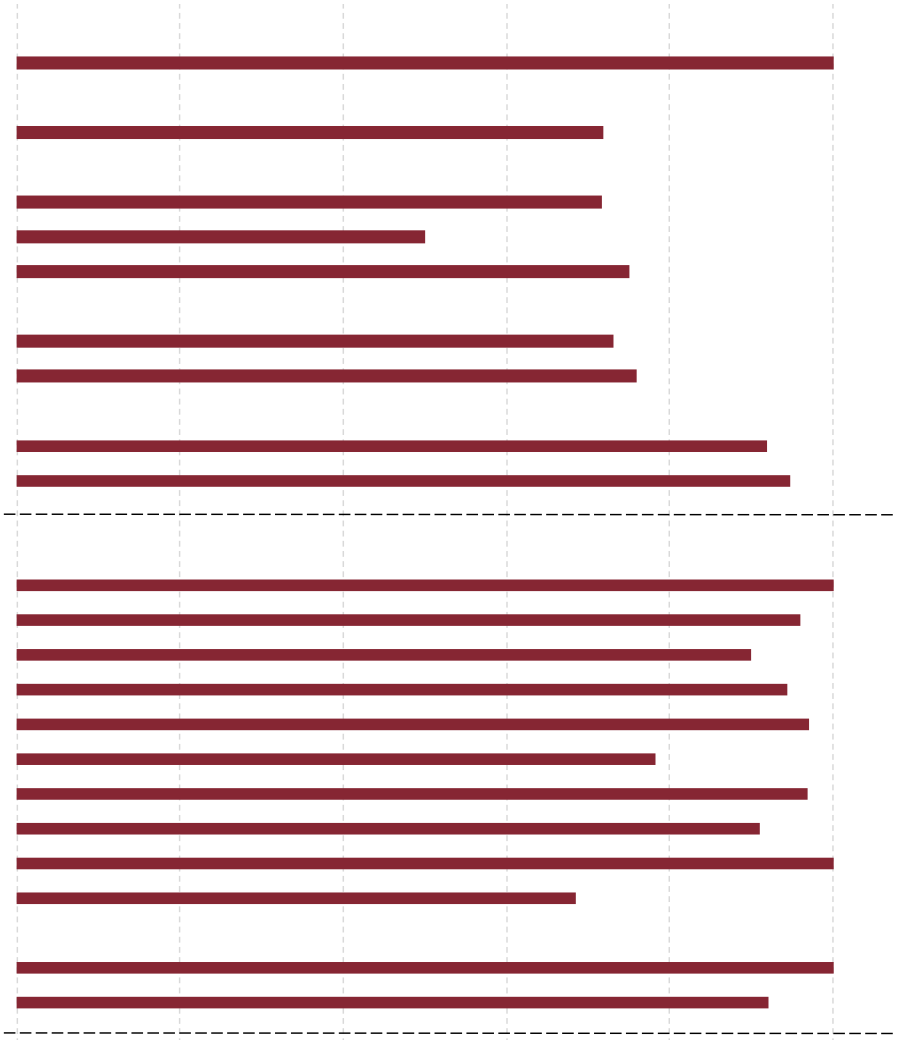
9.1 Soups (as consumed) - Av. Target 0.53g/100g, Max Target 0.63g/100g

Aldi Stores Ltd	*	*	*
Asda Stores Ltd	0.46	70	100
Baxters of Speyside Ltd	0.63	54	66.7
Campbells	0.98	5	20
Covent Garden Soup Co Ltd	0.41	44	100
H.J. Heinz Co. Ltd	0.54	98	100
J Sainsburys	0.49	74	100
Lidl UK GMBH	0.50	15	93.3
Marks and Spencer	0.52	43	83.7
Morrisons Ltd	0.48	54	98.1
Premier Foods	0.52	49	93.9
Princes Ltd	0.71	40	52.5
Tesco Food Stores Ltd	0.46	79	100
The Yorkshire Prvndr Ltd	0.59	18	83.3
Waitrose Ltd	0.49	72	98.6

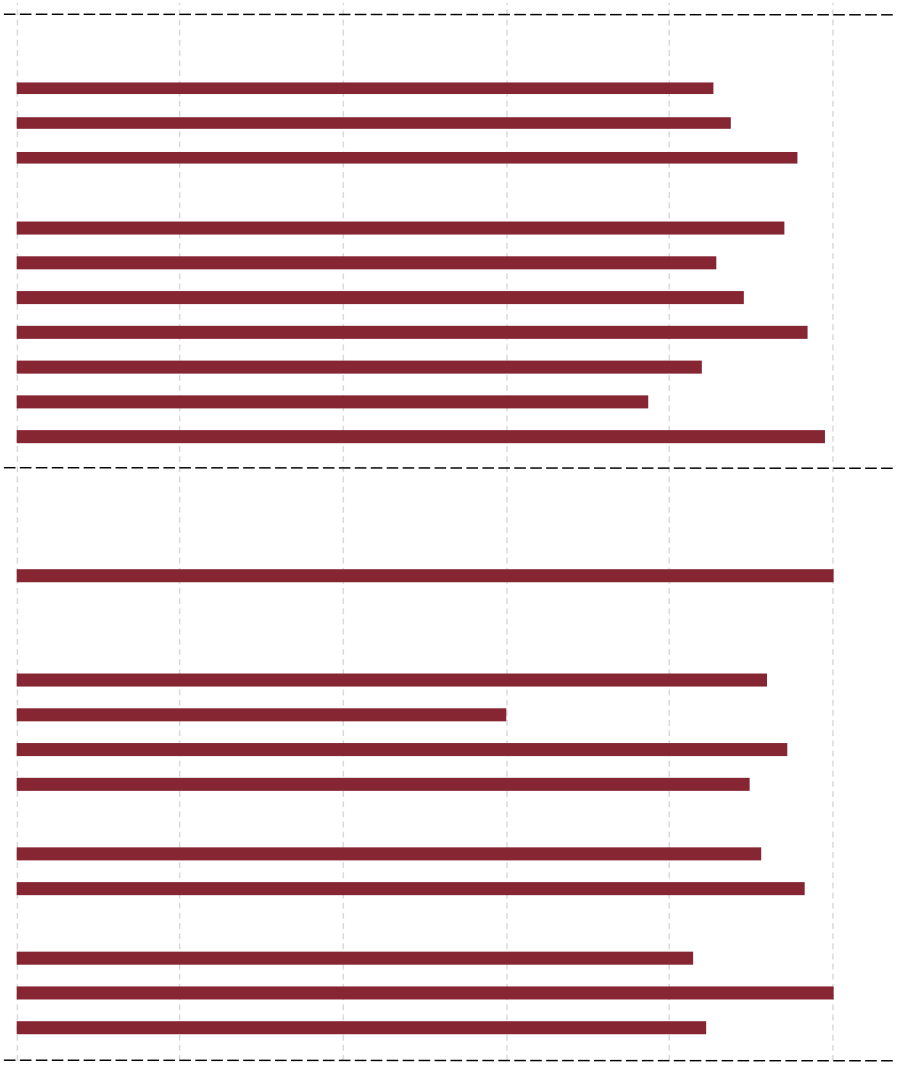


10.1 All pizzas (as consumed) - Av. Target 1.00g/100g, Max Target 1.25g/100g			
Aldi Stores Ltd	0.94	39	100
Asda Stores Ltd	*	*	*
Birds Eye Pizza	1.08	39	71.8
C.W.S. (Co-op)	*	*	*
Dr Oetker Nahrungsm	1.14	53	71.7
Geest Prepared Foods	1.23	14	50
Iceland Frozen Foods	1.08	32	75
J Sainsburys	*	*	*
Lidl UK GMBH	1.21	26	73.1
Marks and Spencer	1.09	29	75.9
Morrisons Ltd	*	*	*
Tesco Food Stores Ltd	1.00	74	91.9
Waitrose Ltd	0.97	38	94.7

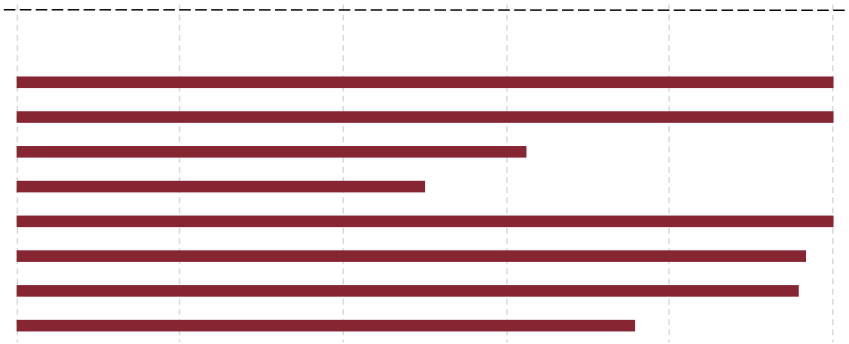
11.1 Standard potato crisps - Av. Target 1.31g/100g, Max Target 1.45g/100g			
Aldi Stores Ltd	1.05	22	100
Asda Stores Ltd	1.16	25	96
C.W.S. (Co-op)	0.96	10	90
J Sainsburys	1.19	18	94.4
Kettle Foods Ltd	1.19	35	97.1
KP Snacks	1.23	60	78.3
Lidl UK GMBH	1.10	32	96.9
Marks and Spencer	1.15	45	91.1
Morrisons Ltd	1.01	19	100
Seabrook Pot.Crisps Ltd	1.41	38	68.4
Tayto Group Ltd	*	*	*
Tesco Food Stores Ltd	1.02	27	100
Walkers Snack Foods Ltd	1.32	125	92



15.1 All cook in and pasta sauces - Av. Target 0.75g/100g, Max Target 0.93g/100g			
AB World Foods Ltd	0.85	41	85.4
Aldi Stores Ltd	0.75	32	87.5
Asda Stores Ltd	0.66	113	95.6
C.W.S. (Co-op)	*	*	*
J Sainsburys	0.67	84	94
Lidl UK GMBH	0.72	35	85.7
Mars	0.76	101	89.1
Morrisons Ltd	0.66	63	96.8
Premier Foods	0.80	143	83.9
Symington	0.83	22	77.3
Tesco Food Stores Ltd	0.62	105	99
16.1 Sweet biscuits - Av. Target 0.55g/100g, Max Target 0.95g/100g			
Aldi Stores Ltd	*	*	*
Asda Stores Ltd	0.45	125	100
Burtons Foods	*	*	*
C.W.S. (Co-op)	*	*	*
Foxs Biscuits Ltd	0.67	62	91.9
General Mills Inc	0.89	40	60
J Sainsburys	0.56	142	94.4
Kellogg Co.of G B Ltd	0.60	58	89.7
Lidl UK GMBH	*	*	*
Marks and Spencer	0.61	102	91.2
Mondelez	0.61	115	96.5
Morrisons Ltd	*	*	*
Pladis UK	0.69	186	82.8
Tesco Food Stores Ltd	0.48	140	100
Waitrose Ltd	0.66	71	84.5



28.1 Stocks (as consumed) - Av. Target 0.75g/100g, Max Target 0.95g/100g			
Asda Stores Ltd	0.78	9	100
J Sainsburys	0.68	11	100
Kallo Foods	0.76	16	62.5
Marigold Ltd	0.85	4	50
Morrisons Ltd	0.79	5	100
Premier Foods	0.73	30	96.7
Tesco Food Stores Ltd	0.67	24	95.8
Unilever UK	0.83	33	75.8



*** represets categories where less than 50% of a business' sales in a category is based on "real" data. As a result, all data for this business in this category has been suppressed**

Conclusions and next steps

Salt reduction remains a public health priority (18). Reducing dietary salt intakes lowers average blood pressure and results in significant public health benefits by contributing to a decrease in the burden of CVD (6).

This is the second detailed assessment of salt levels in foods against reformulation targets. Due to the different types of targets set (average and maximum targets), the 2 sets of targets (main targets set for sodium per 100g of food; out of home targets set for maximum sodium per serving), and the number of food categories and sub-categories, there is no single measure of progress.

Similar to previous findings, analysis shows a mixed picture in relation to achievement of 2017 salt reduction targets. For foods purchased for consumption in-home (retailer own label and manufacturer branded products), just over half of average salt reduction targets have been met which represents no change between 2017 and 2018, although retailers met more targets in 2018 compared with 2017. Although there has been a slight improvement since 2017, only half of average targets are being met for foods in the 15 sub-categories contributing the most sodium to the diet. Where maximum targets were set, 83% of products overall met these targets (compared to 80% in 2017).

For the eating out of home sector, 74% of products overall were at or below maximum per serving targets set specifically for the sector (compared to 70% in 2017). As in 2017, where comparisons between sectors have been possible, it is clear that greater progress needs to be made by the eating out of home sector.

At the business level, while performance against average and maximum targets is similarly mixed there is evidence of good levels of compliance with maximum targets, particularly amongst retailers. This is the first analysis of progress made towards meeting the 2017 salt reduction targets at a business level, therefore conclusions cannot be drawn on the extent to which this reflects recent or more historical progress on salt reduction. There has been a clear expectation that businesses should be continuing to work to reduce salt in their products to build on the progress achieved since salt targets were first set in 2006.

With average salt consumption for adults in 2018/19 at 8.4g per day, compared with the recommended 6g per day, it is clear that further work is needed to reduce population salt intakes.

As set out in the government’s prevention green paper, revised salt reduction targets, published alongside this report, are one element of this. Influencing consumer behaviour through marketing and providing advice, including within the NHS, will also

help. The revised targets are set to be achieved by 2024. PHE remains committed to transparent monitoring of progress and will continue to report regularly on salt reduction. PHE will also continue to engage with stakeholders to help support the achievement of the revised salt reduction targets and other reduction and reformulation programme ambitions.

Acknowledgements

PHE would like to thank food businesses in the eating out of home sector for providing nutrition information.

Appendix 1: 2017 salt targets

Table 1 and Table 2 are reproduced as published by PHE in Salt reduction targets for 2017.

Table 1: Salt reduction targets 2017

Main product category	Sub categories (where relevant)	SALT TARGET FOR 2017 (g salt or mg sodium per 100g)
The salt targets have been set for products 'as sold' unless otherwise stated within the category name and description. The targets have been set according to mg sodium that should be present and include all sources of sodium. The sodium figures have been multiplied by 2.5 to give the salt equivalent figure. The targets should therefore be met for both sodium and salt.		
There are 2 types of average used within the targets table. The first is a processing average (average p) and is used to account for ranges of salt levels that occur in a single product eg bacon and tuna. The second is a range average (average r) which is used to take account of a range of different flavours (eg standard potato crisps) or products (eg morning goods) covered by a single target. All range averages should be calculated on a sales weighted basis.		
1. Meat Products	**1.1 Bacon** Includes all types of injection cured bacon, eg sliced back, streaky, smoked and unsmoked bacon, bacon joints. Excludes all dry and immersion cured bacon.	2.88g salt or 1150mg sodium (average p)
	1.2 Ham/other cured meats Includes hams, cured pork loin and shoulder, corned beef etc. Excludes 'Protected Designation of Origin' and traditional speciality guaranteed products, eg Parma ham. Also excludes speciality products produced using traditional methods such as immersion and dry cured processes including cured tongue.	1.63g salt or 650mg sodium (average p)
	1.3 Sausages 1.3.1 Sausages Includes all fresh, chilled and frozen meat sausages, eg pork, beef, chicken, turkey, etc.	1.13g salt or 450mg sodium (average r) 1.38g salt or 550mg sodium (maximum)
	1.3.2 Cooked sausages and sausage meat products Includes all cooked sausages and sausage meat products eg stuffing, turkey roll with stuffing etc. Excludes Scotch eggs (see category 22.1).	1.38g salt or 550mg sodium (average r) 1.7g salt or 680mg sodium (maximum)
	1.4 Meat pies 1.4.1 Delicatessen, pork pies and sausage rolls Includes all delicatessen pies, pork pies and sausage rolls eg game pie, cranberry topped pork pie, Melton Mowbray pork pie etc.	0.98g salt or 390mg sodium (average r) 1.13g salt or 450mg sodium (maximum)
	1.4.2 Cornish and meat-based pasties Includes all Cornish and meat-based pasties only.	0.9g salt or 360mg sodium (average r)

Main product category	Sub categories (where relevant)	SALT TARGET FOR 2017 (g salt or mg sodium per 100g)
		1.0g salt or 400mg sodium (maximum)
	1.4.3 Other meat-based pastry products including pies and slices, canned and frozen products Includes all meat-based pastry products, pies, slices etc whether chilled, canned, frozen etc. Excludes pork pies and sausage rolls (see category 1.4.1) and Cornish and meat-based pasties (see category 1.4.2).	0.68g salt or 270mg sodium (average r) 0.75g salt or 300mg sodium (maximum)
	1.5 Cooked uncured meat **Includes all roast meat, sliced meat etc. Excludes ham (see category 1.2)** 1.5.1 Whole muscle Includes all chilled, frozen and canned whole muscle eg beef, lamb, chicken, turkey etc. Also includes rotisserie and roasted products.	0.68g salt or 270mg sodium (maximum)
	1.5.2 Reformed whole muscle Includes all reformed whole muscle eg beef, lamb, chicken, turkey etc.	0.9g salt or 360mg sodium (maximum)
	1.5.3 Comminuted or chopped reformed meat Includes all comminuted or chopped reformed and shaped uncured meats eg beef, lamb, chicken, turkey etc.	1.35g salt or 540mg sodium (maximum)
	1.6 Burgers and grill steaks Includes all standard, speciality and topped burgers and grill steaks eg fresh and frozen burgers and grillsteak, beef burgers, hamburgers, pork/bacon burgers, chicken burgers, turkey burgers and all kebabs. Excludes canned burgers (see category 1.7.1)	0.75g salt or 300mg sodium (average r) 0.88g salt or 350mg sodium (maximum)
	1.7 Frankfurters, hotdogs, and burgers 1.7.1 Canned frankfurters, canned hotdogs and canned burgers only Excludes fresh and frozen burgers (see category 1.6), sausages (see category 1.3) and chilled frankfurters (see category 1.7.2).	1.38g salt or 550mg sodium (average r) 1.75g salt or 700mg sodium (maximum)
	1.7.2 Fresh chilled frankfurters	1.5g salt or 600mg sodium (average r) 1.88g salt or 750mg sodium (maximum)
2. Bread	**2.1 Bread and rolls** Includes all bread and rolls: pre-packed, part-baked and freshly baked (including retailer in-store bakery) white, brown, malted grain, wholemeal and 50:50 bread or rolls including seeded products, French bread, ciabatta, focaccia, pitta, naan, chapattis, tortillas etc without "high salt" additions (eg cheese, olives, sundried tomatoes etc, for these products see category 2.2).	0.9g salt or 360mg sodium (average r) 1.13g salt or 450mg sodium (maximum)

Main product category	Sub categories (where relevant)	SALT TARGET FOR 2017 (g salt or mg sodium per 100g)
	2.2 Bread and rolls with additions Includes all bread and rolls (as listed at category 2.1 above) with "high salt" additions eg cheese, olives, sundried tomatoes etc.	1g salt or 400mg sodium (average r) 1.13g salt or 450mg sodium (maximum)
	2.3 Morning goods - yeast raised Includes all yeast raised morning goods such as bagels, croissants, fruited and non-fruited buns, hot cross buns, pain au chocolat, teacakes, brioche etc.	0.73g salt or 290mg sodium (average r) 0.88g salt or 350mg sodium (maximum)
	2.4 Morning goods - powder raised Includes all powder raised morning goods such as waffles, pancakes, English muffins, crumpets, soda farls, scones, potato farls, wheaten bread.	1.13g salt or 450mg sodium (average r) 1.25g salt or 500mg sodium (maximum)
3. Breakfast cereals	**3.1 Breakfast cereals** Includes all breakfast cereals, eg muesli, cornflakes, hot oat cereals etc.	0.59g salt or 235mg sodium (average r) 1.0g salt or 400mg sodium (maximum)
4.Cheese	**4.1 Cheddar and other similar "hard pressed" cheeses** Includes Cheddar, Cheshire, Lancashire, Wensleydale, Caerphilly, Double Gloucester, Leicester, Derby etc, including mild, medium or mature and those products where levels of fat have been reduced. Also includes 'string type' cheese that contain no emulsifiers.	1.75g salt or 700mg sodium (average r) 2g salt or 800mg sodium (maximum)
	4.2 'Fresh' cheeses 4.2.1 Soft white cheese eg Philadelphia - Includes all soft white cheese, flavoured or unflavoured, including reduced fat products. Excludes cottage cheese (see category 4.2.2). Also excludes fromage frais as no salt is added to this product; and Brie, Camembert and other similar soft rinded cheeses.	0.5g salt or 200mg sodium (average r) 0.68g salt or 270mg sodium (maximum)
	4.2.2 Cottage cheese - plain and flavoured Includes all plain and flavoured cottage cheese.	0.5g salt or 200mg sodium (average r) 0.53g salt or 210mg sodium (maximum)
	4.3 Mozzarella Includes mozzarella products for food industry use and grated mozzarella sold in retail outlets. Excludes fresh mozzarella sold in retail outlets.	1.35g salt or 540mg sodium (average p)
	4.4 Blue cheese UK produced blue cheeses only.	2.0g salt or 800mg sodium (average p)
	4.5 Processed Cheese 4.5.1 Cheese spreads	1.63g salt or 650mg sodium (average r) 1.8g salt or 720mg sodium (maximum)
	4.5.2 Other processed cheese Includes all sliced cheese and 'string' type cheese with emulsifiers.	1.7g salt or 680 mg sodium (average r)

Main product category	Sub categories (where relevant)	SALT TARGET FOR 2017 (g salt or mg sodium per 100g)
	Excludes stringed cheese without emulsifiers (see category 4.1 Cheddar).	2.0g salt or 800 mg sodium (maximum)
5. Butter	**5.1 Salted butters and buttery spreads** Includes all regional and salted butter and buttermilk-enriched spreads.	1.48g salt or 590mg sodium (average r) 1.68g salt or 670mg sodium (maximum)
	5.2 Lightly salted butter Includes all lightly salted butters (made using different processes to that used for salted butters at 5.1.2 eg Lurpak).	1.13g salt or 450mg sodium (average p)
6. Fat spreads	**6.1 Margarines/other spreads** Includes all margarines, spreads and spreadable butters which include an oil element and spreads, eg sunflower, olive oil, sterol/stanol etc. Excludes buttermilk-enriched spreads (see category 5.1).	1.06g salt or 425mg sodium (average r) 1.38g salt or 550mg sodium (maximum)
7. Baked beans	**7.1 Baked beans in tomato sauce without accompaniments**	0.56g salt or 225mg sodium (maximum)
	7.2 Baked beans and canned pasta with accompaniments Includes baked beans or canned pasta in tomato sauce with sausages, meatballs, other meats and cheese, spaghetti bolognese, macaroni cheese etc.	0.68g salt or 270mg sodium (average r) 0.73g salt or 290mg sodium (maximum)
8. Ready meals and meal centres	**8.1 Ready meals and meal centres** Includes all Chinese, Thai, Italian, traditional and other ready meals and meal centres with or without accompaniment (potato, rice, noodles, pasta, etc) made from meat, poultry, fish, Quorn or vegetables. Also includes side dishes such as vegetable curries, dhal and other dishes that can be consumed as a meal. This category also includes products such as cheese pies/rolls, breaded fish and chicken, dressed salad with protein, marinated meats etc.	0.63g salt or 250mg sodium (average r) 0.95g salt or 380mg sodium (maximum)
9. Soups	**9.1 Soups (as consumed)** Includes all wet soups (canned, condensed, ambient and fresh) and dried soups as consumed.	0.53g salt or 210mg sodium (average r) 0.63g salt or 250mg sodium (maximum)
10. Pizzas	**10.1 All pizzas (as consumed)** Includes all fresh and frozen pizza, as consumed (following cooking according to manufacturer's instructions).	1.0g salt or 400mg sodium (average r) 1.25g salt or 500mg sodium (maximum)
11. Crisps and snacks	**11.1 Standard potato crisps** All standard potato crisps (sliced potato only), all flavours except salt and vinegar (see category 11.4). Includes crisps aimed at a more adult market.	1.31g salt or 525mg sodium (average r) 1.45g salt or 580mg sodium (maximum)
	11.2 Extruded and sheeted snacks All extruded or sheeted snacks eg cheese	1.7g salt or 680mg sodium (average r) 2g

Main product category	Sub categories (where relevant)	SALT TARGET FOR 2017 (g salt or mg sodium per 100g)
	flavour corn puffs, potato hoops, pretzels, formed crisps, sheeted crisps, tortillas, all flavours except salt and vinegar (see category 11.4).	salt or 800mg sodium (maximum)
	11.3 Pelleted snacks All snacks made from pellets eg prawn cocktail flavour shells, crispy bacon flavour corn snacks, curly cheese snacks, and mini poppadoms, all flavours except salt and vinegar (see category 11.4).	2.13g salt or 850mg sodium (average r) 2.88g salt or 1150mg sodium (maximum)
	11.4 Salt and vinegar products All crisps, snacks etc salt and vinegar flavour only.	1.88g salt or 750mg sodium (average r) 2.5g salt or 1000mg sodium (maximum)
12. Cakes, pastries, fruit pies and other pastry-based desserts	**12.1 Cakes** Includes all sponge cakes, cake bars, malt loaf, American muffins, doughnuts, flapjacks, brownies etc. Also includes iced finger buns. All other buns are included in Morning goods - yeast raised (category 2.3).	0.43g salt or 170mg sodium (average r) 0.7g salt or 280mg sodium (maximum)
	12.2 Pastries Includes all puff pastry based and laminated pastries such as Danish pastries, maple and pecan plait etc. Includes strudels and other products made with filo pastry. Excludes all sweet shortcrust and choux pastry-based products (see category 12.3).	0.35g salt or 140mg sodium (average r) 0.45g salt or 180mg sodium (maximum)
	12.3 Sweet pies and other shortcrust or choux pastry-based desserts Includes all fruit pies and other desserts made with shortcrust and choux pastry eg apple pie, jam tarts, tarte au citron, tarte au chocolate, treacle tart, lemon meringue pie, custard tart, banoffee pie, éclairs, profiteroles, choux buns etc. Excludes all puff pastry and laminated pastries (see category 12.2).	0.25g salt or 100mg sodium (average r) 0.33g salt or 130mg sodium (maximum)
13. Bought sandwiches	**13.1 Sandwiches with high salt fillings** Includes sandwiches and wraps where the filling includes cured meat (eg ham, bacon, pastrami, chorizo, salt beef etc), olives, anchovies and smoked fish, hard cheese, prawns, crayfish, crab and tuna.	0.9g salt or 360mg sodium (average r) 1.5g salt or 600mg sodium (maximum)
	13.2 Sandwiches without high salt fillings Includes all sandwiches and wraps with lower salt fillings eg chicken, vegetables, egg etc eg where ingredients are other than those specified in category 13.1 (see above).	0.68g salt or 270mg sodium (average r) 0.88g salt or 350mg sodium (maximum)
14. Table sauces	**14.1 Tomato ketchup** Includes standard and reduced salt and sugar varieties.	1.7g salt or 680mg sodium (maximum)

Main product category	Sub categories (where relevant)	SALT TARGET FOR 2017 (g salt or mg sodium per 100g)
	14.2 Brown sauce Includes all standard and reduced salt and sugar brown, BBQ, curry-flavoured etc sauces.	1.2g salt or 480mg sodium (maximum)
	14.3 Salad cream Includes reduced fat varieties.	1.58g salt or 630mg sodium (maximum)
	14.4.1 Mayonnaise (not reduced fat/calorie)	1.25g salt or 500mg sodium (maximum)
	14.4.2 Mayonnaise (reduced fat/calorie only)	1.7g salt or 680mg sodium (maximum)
	14.5 Salad dressing Includes all oil and vinegar-based dressings, including reduced fat varieties.	1.5g salt or 600mg sodium (maximum)
15. Cook-in and pPasta Sauces, thick sauces and pastes	**15.1 All cook-in and pasta sauces (except pesto and other thick sauces and pastes)** Includes all cooking sauces, eg pasta sauce, curry, Mexican, Chinese etc. Excludes thick varieties - for pesto and other thick sauces see category 15.2; for thick pastes see category 15.3.	0.75g salt or 300mg sodium (average r) 0.93g salt or 370mg sodium (maximum)
	15.2 Pesto and other thick sauces Includes thick cooking sauces intended to be used in smaller quantities, eg pesto, stir fry sauces, etc. (eg a portion size of under 90g).	1.38g salt or 550mg sodium (average r) 1.63g salt or 650mg sodium (maximum)
	15.3 Thick pastes Includes all thick pastes used in very small quantities (eg15-20g) such as curry and Thai.	3.25g salt or 1300mg sodium (average r) 3.75g salt or 1500mg sodium (maximum)
16. Biscuits	**16.1 Sweet biscuits** Includes all filled and unfilled sweet biscuits, whether coated (full or half) or not, breakfast biscuits and cereal bars.	0.55g salt or 220mg sodium (average r) 0.95g salt or 380mg sodium (maximum)
	16.2 Savoury biscuits Includes all filled and unfilled savoury biscuits.	1.3g salt or 520mg sodium (average r) 1.75g salt or 700mg sodium (maximum)
17. Pasta	**17.1 Pasta and noodles, plain and flavoured** Includes fresh, canned, frozen pasta (including spaghetti/hoops in tomato sauce) and noodles. Also includes dry flavoured noodles and pasta with flavour or sauce sold as a snack or meal - in these circumstances, the target is for the products as consumed (made up according to manufacturer's instructions) and not as sold. Excludes stuffed pasta and pasta ready meals (see category 8) and canned pasta in tomato sauce with accompaniments (see category 7.2). Also excludes dried pasta.	0.5g salt or 200mg sodium (average r) 0.88g salt or 350mg sodium (maximum)
18. Rice	**18.1 Rice (unflavoured), as consumed** Includes all unflavoured rice and cous cous,	0.18g salt or 70mg sodium (maximum)

Main product category	Sub categories (where relevant)	SALT TARGET FOR 2017 (g salt or mg sodium per 100g)
	dried, cooked (made up according to manufacturer's instructions, where appropriate).	
	18.2 Flavoured rice, as consumed Includes all pouched, flavoured rice and cous cous, including ambient and dried products, as consumed (made up according to manufacturer's instructions, where appropriate).	0.45g salt or 180mg sodium (average r) 0.58g salt or 230mg sodium (maximum)
19. Other cereals	**19.1 Other cereals** Includes ready-made pastry – puff, short crust, filo etc (fresh and frozen); Yorkshire puddings, dumplings, batter and crumble mix, taco shells, flan cases, vol au vent cases, tempura batter, Chinese pancakes and pizza bases (fresh and frozen). Excludes flavoured and unflavoured cous cous (see category 18) and mini poppadoms (see category 11.3). Also excludes large poppadoms.	0.55g salt or 220mg sodium (average r) 0.63g salt or 250mg sodium (maximum)
20. Processed puddings Excludes mousses, crème caramel, jelly, rice pudding, ready to eat custard and custard powder as these contain no added salt (the sodium present is that naturally occurring in the ingredients only) Jelly crystals are also excluded for technical reasons.	**20.1 Dessert mixes, as consumed** Includes dehydrated dessert mixes (made up according to manufacturer's instructions). Excludes custard powder and jelly crystals.	0.45g salt or 180mg sodium (maximum)
	20.2 Cheesecake Includes ambient, chilled, frozen and dehydrated (as consumed, made up according to manufacturer's instructions).	0.28g salt or 110mg sodium (average r) 0.35g salt or 140mg sodium (maximum)
	20.3 Sponge-based processed puddings Includes jam roly-poly, spotted dick, sticky toffee pudding etc. Excludes canned versions.	0.43g salt or 170mg sodium (average r) 0.63g salt or 250mg sodium (maximum)
	20.4 All other processed puddings Includes all other processed and pre-prepared puddings eg bread and butter pudding, brownie desserts, crumbles, trifle etc. Excludes sweet pies and all other desserts made with shortcrust and choux pastry (see category 12.4).	0.18g salt or 70mg sodium (average r) 0.28g salt or 110mg sodium (maximum)
21. Quiche	**21.1 Quiches** Includes all quiches and flans.	0.55g salt or 220mg sodium (average r) 0.68g salt or 270mg sodium (maximum)
22. Scotch eggs	**22.1 Scotch eggs**	0.78g salt or 310mg sodium (maximum)
23. Canned fish	**23.1 Canned tuna** Includes all tuna canned in oil, brine, spring water etc. Excludes canned fish with sauce or other additions (see category 23.3).	0.9g salt or 360mg sodium (average p)
	23.2 Canned salmon Includes all standard canned salmon. Excludes canned fish with sauce or other additions (see category 23.3).	0.8g salt or 320mg sodium (average p)

Main product category	Sub categories (where relevant)	SALT TARGET FOR 2017 (g salt or mg sodium per 100g)
	23.3 Other canned fish Includes sardines, mackerel, pilchards in brine, oil etc and canned fish with sauces or other additions eg tomato, barbeque, mustard etc. Also includes canned shellfish eg prawns, crab, mussels etc. Excludes anchovies, smoked fish, lumpfish caviar and fish roe.	0.85g salt or 340mg sodium (average r) 1.5g salt or 600mg sodium (maximum)
24. Canned vegetables	**24.1 Canned and bottled vegetables** Includes all vegetables, pulses and passata in cans, jars, cartons and tetra-packs etc. Excludes processed, marrowfat and mushy peas (see category 24.2) and sauerkraut.	0.13g salt or 50mg sodium (maximum)
	24.2 Canned processed, marrowfat and mushy peas Includes these products only.	0.45g salt or 180mg sodium (maximum)
25. Meat alternatives	**25.1 Plain meat alternatives** Includes plain tofu, Quorn ingredients (eg mince, plain pieces and fillets), meat free mince and other similar products.	0.63g salt or 250mg sodium (maximum)
	25.2 Meat free products Includes all meat and fish alternative products eg sausages, burgers, bites, pies, en croute products, sausage rolls, nut cutlets, falafel, flavoured 'meat' pieces eg chicken fillets, 'meatballs', all meat-free 'meats' eg ham, turkey etc, including 'beanburgers', 'veggieburgers' and other similar products. Excludes bacon (see category 25.3), baked beans (category 7), canned vegetables (category 24), ready meals and meal centres (category 8).	0.9g salt or 360mg sodium (average r) 1.25g salt or 500mg sodium (maximum)
	25.3 Meat-free bacon Includes all meat-free bacon type products, whether made from soya, Quorn or other ingredients.	1.88g salt or 750mg sodium (maximum)
26. Other processed potatoes	**26.1 Dehydrated instant mashed potato, as consumed** Includes all instant mashed potato products, plain and flavoured, as consumed (as made up according to manufacturer's instructions).	0.15g salt or 60mg sodium (maximum)
	26.2 Other processed potato products Includes all other processed potato products, including frozen and chilled chips with coatings, potato waffles, shaped potato, wedges, mash, potato dauphinoise etc. Excludes oven chips or other processed potato products with no added salt.	0.46g salt or 185mg sodium (average r) 0.69g salt or 275mg sodium (maximum)
27. Beverages	**27.1 Dried beverages, as consumed** Includes drinking chocolate, instant chocolate drinks, instant malted drinks, instant cappuccino drinks etc, as consumed (made up according to	0.15g salt or 60mg sodium (maximum)

Main product category	Sub categories (where relevant)	SALT TARGET FOR 2017 (g salt or mg sodium per 100g)
	manufacturer's instructions). Excludes tea and coffee.	
28. Stocks and gravies	**28.1 Stocks, as consumed** Includes all flavours of stocks and bouillons including granules, powder, pastes, cubes, reduction jellies and ready to use products, as consumed (made up according to manufacturer's instructions).	0.75g salt or 300mg sodium (average r) 0.95g salt or 380mg sodium (maximum)
	28.2 Gravy, as consumed Includes all flavours of gravy including granules, powder, pastes, cubes, reduction jellies and ready to use products, as consumed (made up according to manufacturer's instructions).	0.95g salt or 380mg sodium (average r) 1.13g salt or 450mg sodium (maximum)

Table 2: Salt reduction targets for the out of home sector 2017

Main product category	Sub-category	Maximum per serving targets	Additional information
DISH TARGET **1. Potato products**	**1.1 Seasoned fries** Includes all chips below 8mm thickness.	**0.88g salt or 350mg sodium**	Chips served unseasoned (ie without being pre-salted) are excluded from this target.
	1.2 Seasoned chips and other potato products Includes chips with an 8mm or bigger width that have been pre-seasoned before serving. Also includes other potato based products eg wedges, potato skins and roast potatoes. Excludes potato products cooked in a sauce such as Bombay potatoes, gratin dauphinoise etc.	**1.5g salt or 600mg sodium**	
DISH TARGET **2. Burgers in bun**	**2.1 Small burgers without cheese or other cured meats** Includes single beef/pork patty burgers and chicken burgers. Excludes burgers with cheese or cured meat (eg bacon) additions. Also excludes single beef patties at or above 6oz in weight.	**2.4g salt or 960mg sodium**	Theses target cover burger patties, additions and sauces within a bun. Accompaniments served outside of the bun are consider as side dishes and are not covered by the burger target. The targets include sauce and topping options where these are served in the bun and are included in the fixed price of the burger.
	2.2 Burgers with cured meats Includes single or multiple beef/pork patty burgers and chicken burgers with cured meat additions such as bacon or chorizo (eg bacon and cheese).	**4g salt or 1600mg sodium**	
	2.3 All other burgers Includes single patties with cheese, multiple patties with or without cheese and vegetarian/bean or fish alternatives. Also includes single beef patties at or above 6oz in weight.	**3.5g salt or 1400mg sodium**	
DISH TARGET **3. Battered or breaded chicken portions and pieces**	**3.1 Under 200kcal** Includes all breaded chicken portions and pieces with a calorie level below 200kcal.	**1g salt or 400mg sodium**	For larger sharing type products over 750kcal the targets should be applied on a suggested serving basis.
	3.2 200-400kcal Includes all breaded chicken portions and pieces with a calorie range from 200-400kcal.	**2g salt or 800mg sodium**	
	3.3 Over 400kcal Includes all breaded chicken portions and pieces with a calorie level above 400kcal.	**3.5g salt or 1400mg sodium**	
MEAL TARGET	**4.1 Fish fillet meals** Includes all battered or breaded	**2.75g salt or 1100mg sodium**	Meal target includes sides and

Main product category	Sub-category	Maximum per serving targets	Additional information
4. Battered or breaded seafood-based meals	fish fillet-based meals, such as cod, haddock, coley etc.		accompaniments (eg served with chips, mushy peas, tartar sauce).
	4.2 Bitesize seafood meals Includes all battered or breaded seafood meals eg fish nuggets, scampi and tempura prawns etc.	**3.75g salt or 1500mg sodium**	
MEAL & DISH TARGET **5. Pies**	**5.1 Pie-based meals** Includes all pies, pasties, slices, suet pudding and sausage rolls served with side dishes and accompaniments.	**4.25g salt or 1700mg sodium**	Meal target includes sides and accompaniments (eg served with mashed potato and gravy).
	5.2 Pies only Includes all pies, pasties, slices, suet pudding and sausage rolls. For pies intended for sharing, the targets should be applied on a suggested serving basis.	**1.9g salt or 760mg sodium**	
MEAL TARGET **6. Sauce based main dishes**	**6.1 Curry main meals** Includes all curries of South/ Southeast Asian origin (eg Indian, Thai etc) served with side dishes and accompaniments.	**4g salt or 1600mg sodium**	Meal target includes sides and accompaniments (eg served with side dishes such as rice, naan).
	6.2 All other sauce based main meals Includes all dishes cooked in a sauce (eg chilli con carne, sweet and sour chicken). Excludes sauce based pasta dishes and dishes with a gravy or sauce topping added after cooking.	**3.2g salt or 1300mg sodium**	
MEAL TARGET **7. Beef steaks, grilled chicken and roast main meals**	**7.1 Beef steaks, grilled chicken and roast main meals** Includes beef roast dinners, carvery, steak, pork chops and vegetarian equivalents served with sides and toppings and gravy.	**4.5g salt or 1800mg sodium**	Meal target includes sides and accompaniments (eg roast potatoes, vegetables, steak sauces). Vegetarian alternatives include meals such as Vegetarian nut roast. The targets include sauce options where this is part of the fixed price.
DISH TARGET **8. Sandwiches**	**8.1 Cured meat sandwiches** Includes rolls, baguettes, paninis, ciabattas, 6″ subs and wraps with cured meat fillings eg bacon, ham, salami etc.	**3.75g salt or 1500mg sodium**	Uncured salami and pepperoni are included in cured.

Main product category	Sub-category	Maximum per serving targets	Additional information
	8.2 All other sandwiches Includes rolls, baguettes, paninis, ciabattas, 6″ subs and wraps with fillings that do not contain cured meat eg tuna, cheese, vegetables.	**2.75g salt or 1100mg sodium**	Brined meats fall into all other sandwiches.
MEAL TARGET **9. Pasta meal**	**9.1 Lasagne, risotto, gnocchi and pasta with cured meat additions** Includes all meat and vegetarian lasagne, risotto and gnocchi based dishes. Also includes all pasta dishes with cured meat as a main ingredient eg carbonara.	**3.75g salt or 1500mg sodium**	Side dishes such as garlic bread and salad are included in the target if they are included in the price as a complete main meal.
	9.2 All other pasta dishes Includes pasta based dishes without cured meat as a main ingredient eg Spaghetti Bolognese, pasta in a tomato, cheese or cream sauce etc.	**2.75g salt or 1100mg sodium**	
DISH TARGET **10. Pizza**	**10.1 Take away style pizza with cured meat toppings (per slice)** Includes all takeaway pizza toppings with cured meat eg ham, pepperoni etc.	**1.25g salt or 500mg sodium**	Take away style pizza is defined as any pizza that does not meet the definition of an Italian style pizza. Generally, these pizzas are served in a variety of sizes and base options, have a thicker layer of topping and are pre-sliced. Excludes speciality base (eg stuffed crust) combinations, although reformulation of dough and topping should extend to all base options. Uncured salami and pepperoni are included in cured meat. Brined meats fall into all other toppings. The following slice guide applies: Personal ≤7" = 4
	10.2 Take away style pizza with all other toppings (per slice) Includes all takeaway pizza toppings without cured meat eg chicken, beef, fish, margherita etc.	**0.88g salt or 350mg sodium**	

Main product category	Sub-category	Maximum per serving targets	Additional information
			slices Small >7" ≤9.5" = 6 slices Medium > 9.5" ≤12.5" = 8 slices Large >12.5" = 10 slices or more
	10.3 Traditional Italian style pizza with cured meat toppings (per pizza) Includes all Italian style pizza, calzone and stromboli with cured meat eg ham, pepperoni etc.	**6g salt or 2400mg sodium**	Traditional Italian style pizza is defined as any pizza that is based on the tradition Neapolitan or Lazio (Roman) style. Generally, these have a thin base, thin layer of topping, are below 12″ in size, served unsliced and eaten by 1 person.
	10.4 Traditional Italian style pizza with all other toppings (per pizza) Includes all Italian style pizza, calzone and stromboli without cured meat eg Chicken, beef, fish, margherita etc.	**5g salt or 2000mg sodium**	
MEAL TARGET **11. Children's main meals**	**All children's main meals** Includes all main meals aimed primarily at children.	**1.8g salt or 720mg sodium**	Does not include starters, desserts or drinks which may be included in some children's meal deals. Excludes school foods.

Appendix 2: Detailed methodology

Introduction

This appendix provides detailed information about data sources and methodology, including data preparation, coding and analysis. Please note that all analyses are conducted using sodium values. Salt values are produced for reporting purposes using a standard conversion (sodium * 2.5 = salt).

2017 salt targets

Analysis was undertaken to compare the salt content in foods in 2018 with the 2017 salt reduction targets (set in 2014), for 28 categories, covering 76 sub-categories, of food and drinks for all sectors of the food industry. In addition, the salt content of food and drinks sold in the eating out of home sector was compared against specific eating out of home targets for 11 categories, covering 24 sub-categories.

The 2017 salt targets were set in a range of ways, using simple averages, sales weighted averages and maximums: and some product sub-categories have more than one type of target. Average targets aim to lower the overall salt levels in a sub-category, while maintaining flexibility to allow for variation between individual products. Maximum targets stimulate businesses to look at products that are high in salt, benchmark against competitors and make reductions.

There are 3 different types of salt reduction targets within the 2017 salt targets set for all sectors:

- a simple average of salt values (g/100g) across all products in the sub-category: **average p (processing average)**
- a sales weighted average of salt values (g/100g) across all products in the sub-category: **average r (range average)**
- a maximum salt value (g/100g) that no product in the sub-category should be exceeding: **maximum**

Sales weighted averages are calculated by weighting the salt content of individual products by their volume sales (measured by weight in kilogrammes), so changes to the salt content of products with higher sales will have a greater impact on the sales weighted average than changes for products with fewer sales.

The salt reduction targets specific to the eating out of home sector were set on a maximum per serving basis:

- a maximum salt value (g/serving) that no product in the sub-category should be exceeding: **maximum**

In some tables, simple averages and sales weighted averages (SWAs) are presented together to examine the extent to which average targets have been met. Average targets are considered to have been met if the average salt level is below or within 5% of the target value. Achievement against maximum targets is assessed by calculating the proportion of products with salt content at or below the maximum target.

National Diet and Nutrition Survey: main contributors to sodium in the diet

The National Diet and Nutrition Survey Rolling Programme (NDNS RP) is a continuous cross-sectional survey, designed to assess the diet, nutrient intake and nutritional status of the general population aged 1.5 years and over living in private households in the UK. A representative sample of around 1,000 people (500 adults and 500 children) take part in the NDNS RP each year. The NDNS RP comprises an interview, a 3 to 4 day estimated diet diary, physical measurements and a blood and urine sample. Results are used by government to monitor progress toward diet and nutrition objectives of UK Health Departments and to develop policy interventions.

Diet diary data from the NDNS dataset collected between 2014/15 and 2015/16 (years 7 and 8) was used to identify the 15 salt target sub-categories contributing the most salt to the diet (on the basis of their percentage contribution).

Data sources

In-home sector (retailer own label and manufacturer branded products)

The analysis of salt content for retailer own label and manufacturer branded products uses 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 (GB), recording details of all food and drink purchases brought in to the home, 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 is weighted to provide a representative picture of total food and drink purchasing in Great Britain over the time period for which data is provided.

For the 2018 dataset, Kantar Worldpanel aimed to collect all nutrition information from food labels on individual products via the use of fieldworkers who visited key retail stores and captured the information provided on packaging on a rolling 4 monthly basis. Kantar Worldpanel 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. Note that if no nutrition information for a product was found in 2018 then the most recently collected nutrition information available from a previous year is used. Therefore, if the product has been reformulated since the last time nutrition information was collected then this reformulation will not be captured in the analysis, but it will be included in future reports when the nutrition information is refreshed.

Where nutrition information has been collected via these methods, this is termed ‘real’ data. Where it has not been possible to gather nutrition information for a product, nutrition values are either ‘cloned’ from similar products within the same brand (for example using a different pack size of the same product, or using a different product within the same brand) or an average value for the category or product type is calculated and used instead (‘imputed’ data). For the main summary analyses presented in this report, only real and cloned data have been used. 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. For the analysis presented at a business level only real data has been used. This is to ensure that results attributed to a particular business are based only on products where the nutrition information has been directly recorded.

Kantar Worldpanel typically collects nutrition information for products as they are sold. However, there are a number of products where the information available on packaging is for the product as it is consumed (for example cake mixes, dried soups and beverages and some stocks or gravies). Kantar Worldpanel provide a flag on their dataset to indicate if the nutrition information is for the product ‘as consumed’ as opposed to ‘as sold’. In instances where the information is provided ‘as sold’, PHE typically replaces the nutrition data with ‘as consumed’ nutrition data and uses this in the analysis. For more information see the ‘data preparation’ section below.

The Kantar Worldpanel dataset covers the 52 weeks ending 9 September 2018.

Eating out of home sector

The analysis of salt content for the eating out of home sector uses nutrition data for products available within the sector. This is sufficient to assess the progress made towards meeting the maximum targets set for all sectors, and those targets set specifically for the eating out of home sector as these are based on salt content per 100g or per serving respectively. Nutrition data alone is not sufficient to assess progress towards meeting sales-weighted average targets set for all sectors. Whilst PHE does hold purchase data for the eating out of home sector (used to estimate volume sales) collected from MCA (a contracted data provider), this cannot be used for sales weighted analysis as there is no one-to-one mapping between the nutrition data that was collected and purchase data by item. For example, a panellist may say that they had a burger in a restaurant, but the type of burger is not recorded, and as the restaurant has several variations of burger with different nutrition data, it is not possible to accurately match the nutrition data to the actual burger purchased. On other occasions nutrition data linked to purchase data is not available for a particular business but may be available for the same product type at similar businesses.

Nutrition information was collected in 2 stages. First, nutrition information was collected from company websites and menus by MCA (from September to November 2018). This was supplemented by data collected by PHE directly from businesses. All out of home businesses who had previously engaged with PHE were contacted and asked to provide nutrition information for all their products available in 2018 using a template provided by PHE. Businesses were given the opportunity to provide nutrition information per serving, per 100g or both, and the weight or volume of servings. Where incomplete or non-standardised data had been provided, PHE liaised with businesses to improve this.

All nutrition information obtained from businesses and MCA was collated by PHE to create a nutrition information dataset for the eating out of home sector. Where data collection was duplicated from PHE and MCA, the data provided from businesses directly to PHE was used.

Data preparation: coding

Prior to analysis, the NDNS dataset and both the in-home and out of home datasets were coded into salt reduction categories and sub-categories.

In-home sector (retailer own label and manufacturer branded products)

As a first step, product categorisation was mapped across from 2017 to any products that also appeared in the 2018 dataset.

Subsequently, for remaining products, a review of Kantar Worldpanel categories and sub-categories was conducted to identify and exclude those that were not included in the salt reduction programme (for example alcohol and plain fruit and vegetables). Key word searches were conducted on excluded data to check no relevant products had been excluded.

The remaining Kantar Worldpanel categories and sub-categories were reviewed to identify those where products could be mapped directly across to the 76 salt target sub-categories.

Where a Kantar Worldpanel category or sub-category included a mix of products from more than one salt target sub-category or it included products that were not included in the salt reduction programme, the products were allocated to a salt target sub-category or excluded.

Once product specific allocations had been applied, the resulting salt target sub-category groupings and excluded products were checked by reviewing both the included and excluded products and using further keyword searches. Where similar products were found to be coded in 2 different sub-categories, or had been incorrectly categorised, product specific allocations were amended.

Product allocation to each of the sub-categories was conducted by a PHE nutritionist and checked by a second nutritionist; any discrepancies or disagreements on coding were discussed with a third nutritionist until agreement could be reached.

All coding decisions were informed by salt target sub-category definitions and descriptions (see Table 1, Appendix 1), and the Kantar Worldpanel product name, description and brand. Parts of the process were iterative, and a coding log was maintained to document decisions and to ensure similar products sold across different businesses and across the in-home and eating out of home sectors were coded consistently.

Eating out of home sector

Products were coded into:

i) the 76 salt target sub-categories
ii) the 24 sub-categories for which specific eating out of home sector targets had been set
iii) coded as excluded if they did not fit in a salt target sub-category (for example, soft drinks)

Coding was completed using combinations of product name, product description, nutrition information and any other supporting information which had been received from businesses. Where possible, publicly available product information was also used to help identify the appropriate salt target sub-category.

Coding was completed by a PHE nutritionist and checked by a second nutritionist. Any issues regarding sub-category coding were raised and discussed with a third nutritionist. A coding log was used to ensure similar products sold across different businesses and across the in-home and eating out of home sectors were coded consistently. Where product level information was considered too limited the product was excluded from analysis.

National Diet and Nutrition Survey: main contributors to sodium in the diet

NDNS data was used to identify the 15 salt target sub-categories contributing the most sodium to the diet (on the basis of their percentage contribution).

The NDNS dataset was coded into the 76 salt target sub-categories and into the 24 sub-categories for which specific eating out of home sector targets had been set. NDNS food codes were allocated to the 2017 salt target sub-categories manually by a PHE nutritionist and checked by a second nutritionist. They were excluded if they were considered not applicable to the targets (for example, homemade codes and foods with naturally occurring sodium). Any issues regarding sub-category coding were raised and discussed with a third nutritionist. The coding log was used to ensure similar products in the NDNS dataset were coded consistently with products in the in-home and eating out of home sector datasets.

Data preparation: analysis

In-home sector (retailer own label and manufacturer branded products)

Adjustments to data for ‘as consumed’ targets

Several salt reduction targets were set for food and drink products ‘as consumed’ as opposed to ‘as sold’ to account for products that are diluted by the consumer or sold as multiple servings. Examples include soups, stocks and gravies and dried beverages. These products were identified in the Kantar Worldpanel dataset using keyword searches and through scanning relevant sub-categories for key words and unusual nutrition values (for example, particularly high sodium content per 100g). In some cases, the ‘as consumed’ nutrition information was available within the Kantar Worldpanel dataset. Where only ‘as sold’ nutrition information was available, efforts were made to source the ‘as consumed’ values via web searches, and where possible a standardised/individual dilution factor was applied to the sodium and sales values. Products were excluded from the analysis if no ‘as consumed’ data could be located.

Dealing with outliers and implausible values

Average targets within the 2017 salt targets are a mix of simple and sales weighted average values and, as a result, outliers or errors in the data can have a large impact on a sub-category and the assessment of progress made. This was done in 2 stages.

First, after adjusting for ‘as consumed’ and removing outliers, the ranges of the remaining products in each sub-category were checked by a nutritionist and products with implausibly low or high sodium values were excluded from the analysis.

Second, products with salt values more than 2.58 standard deviations above or below the sub-category mean were removed from the analysis. This cut-off was applied after data adjustments accounting for ‘as consumed’ had been made. For some categories (such as breakfast cereals and some sweet products), this allowed products with zero or only a trace of salt to be included as these are plausible values for these categories.

Other products excluded from the analysis

As well as the exclusions listed above, other products were excluded from the analysis. These include products that have imputed nutritional values, products with no sodium values, and products where the information provided is not sufficient for analysis (for example products with nutrition information per serving and not per 100g which do not

have an associated serving size). For the analysis presented at a business level cloned data was also excluded.

Conversions from sodium to salt

Kantar Worldpanel record all salt information in terms of sodium and all analyses are conducted using sodium values. Salt values are then produced for reporting purposes using a standard conversion (sodium * 2.5 = salt).

Eating out of home sector

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.

Missing values were calculated where possible, for example:

i) missing sodium values were calculated from salt values if they were provided
ii) missing sodium values per 100g were calculated using per serving values and serving sizes
iii) missing sodium values per serving were calculated using per 100g values and serving size

Further adjustments were made as necessary to ensure that nutrition information was in the format required for analysing progress towards meeting the salt targets.

The ranges of sodium values in each sub-category were checked by a nutritionist and products with implausibly low or high sodium values were excluded from the analysis.

Data analysis

In-home sector (retailer own label and manufacturer branded products)

Once the data had been coded and cleaned the following metrics were calculated for each product sub-category included in the main 2017 salt targets. All sub-categories were analysed but only those with sufficient data (more than 40 products per sub-category) are presented in the report. Metrics included:

- number of products in the sub-category included in analysis
- proportion of all products in the sub-category included in analysis
- proportion of volume sales of all products in the sub-category included in analysis
- the range of salt content across products in the sub-category (min to max)
- the range of salt content in the top 10 products by volume sales (min to max)
- proportion of volume sales from manufacturer branded vs retailer own label products
- average salt content (for sub-categories with an average target) – manufacturers and retailers combined, manufacturers only, retailers only
- proportion of products at or below maximum target (for sub-categories with a maximum target) – manufacturers and retailers combined, manufacturers only, retailers only
- proportion of volume sales for products at or below maximum target (for sub-categories with a maximum target) – manufacturers and retailers combined, manufacturers only, retailers only

For sub-categories where the target was a processing average (average p), simple averages were calculated and presented. For sub-categories where the target was a range average (average r), sales weighted averages were calculated and presented. Average targets were considered to have been met if they were below or within 5% of the average target. For reporting at a business level only simple averages are presented.

The number and proportion of products included in the analysis varies across sub-categories.

Eating out of home sector

Once the data had been coded and cleaned 2 sets of analyses were undertaken: i) an analysis of achievement against targets set specifically for the eating out of home sector, and ii) an analysis of achievement against the main targets which were set for all sectors (maximum targets only). For both analyses, this was only possible for sub-categories where sufficient data (more than 20 products) was available, and for the latter analysis, where it was possible to calculate sodium per 100g of a product. Achievement of average r (SWA) targets was not examined as the required data (nutrition data matched to sales volumes) was not available.

Data for contract caterers has been removed from this analysis. 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.

Achievement of salt reduction targets specific to the eating out of home sector

The following metrics are calculated for each product sub-category included in the 2017 salt targets set specifically for the eating out of home sector for which sufficient data (more than 20 products per sub-category) are available for analysis (24 sub-categories):

- number of products in the sub-category included in analysis
- proportion of all products in the sub-category included in analysis
- the range of salt content per serving in the sub-category (min to max)
- proportion of products at or below the maximum target

Achievement of maximum salt reduction targets set for all sectors by the eating out of home sector

The following metrics are calculated for each product sub-category included in the main 2017 salt targets for which a maximum target is set and where sufficient data (more than 20 products per sub-category) are available for analysis (22 sub-categories):

- number of products in the sub-category included in analysis
- proportion of all products in the sub-category included in analysis
- the range of salt values per 100g in the sub-category (min to max)
- proportion of products at or below the maximum target

Business level analysis

For the first time, business level analysis has been represented within this report. For the in-home sector, the top businesses (up to 15, based on salt sales) are presented for each of the top 15 dietary sodium contributing salt reduction target sub-categories. Businesses are presented in alphabetical order and for a business to be presented it must have at least 1% of volume sales otherwise it is excluded. Only ‘real’ data has been used in this analysis and where ‘real’ data is available for less than 50% of a business’ products, results have been suppressed. For the eating out of home sector, the top 10 businesses have been identified based on estimated salt sales. Nutrition data (either scraped from businesses’ websites or sent to PHE directly by the business) is then used to calculate the simple average salt content in products that are at or below the salt reduction targets.

Data limitations

In-home sector (retailer own label and manufacturer branded products)

For the 2018 dataset, Kantar Worldpanel's fieldworkers collected nutrition information from retail stores on a rolling 4-month basis; however, this process 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, as the Kantar Worldpanel data provided to PHE included purchases up until 9 September 2018, reformulation occurring after this date would not have been captured.

Note that if no nutrition information for a product was found in 2018 then the most recently collected nutrition information available from a previous year is used. Therefore, if the product has been reformulated since the last time nutrition information was collected then this reformulation will not be captured in the analysis, but it will be included in future reports when the nutrition information is refreshed.

Nutrition information and volume sales of some bakery items such as bread, morning goods, cakes, biscuits and puddings in the Kantar Worldpanel dataset are generally presented in terms of servings, and not per 100g of product. Information on serving size is therefore not routinely available. To calculate average salt levels for these sub-categories the serving size of products is needed and must be collected through fieldwork in retail stores. Available products (i.e. those products on the shelves when a fieldworker went into a store) were weighed in 2018 and this is the data which has been used to inform progress against the 2017 salt targets. For the sub-categories which include these products it is not possible to calculate the proportion of volume sales of all products included in the analysis due to the combination of per 100g and per serving data.

None of the figures presented in the report include confidence intervals since Kantar Worldpanel do not provide confidence intervals with their data. However, as the data have been collected via a panel survey, there will be some variability in the estimates presented.

The analyses included in this report are based on GB data on what people buy ('shopping basket' data). As there are time lags between when a product is reformulated and when this is available to buy, the nutrient data used may not reflect all product reformulation changes made during the data collection period.

It should also be noted that data presented for retailers includes their own (private) label products only and not the sales of branded products.

The number of products included in sub-categories varies and for a small number of sub-categories the amount of data excluded is high. This has implications for the reliability of the analysis, and the results for those sub-categories should be treated with caution.

Eating out of home sector

The analyses for the eating out of home sector use a combination of nutrition information collected directly from businesses by PHE or obtained from company websites and menus by MCA in 2018. However, data is not available for all products and all businesses within the eating out of home sector. The data used within our analysis may not therefore be representative of all businesses and products on the market.

As with the data for retailers and manufacturers the number of products included in the analysis within sub-categories varies. Where the number of products included in the analysis is low the results should be interpreted with caution.

It is not possible to produce sales weighted averages for the eating out of home sector as the data available does not link sales to nutrition information at individual product level. Therefore, no assessment of the progress the eating out of home sector has made towards meeting sales weighted average targets (average r) in the main 2017 salt targets has been completed.

Comparisons between 2017 and 2018 should also be treated with caution due to differing numbers and profile of products between the 2 years. Please also note that some 2017 figures have been revised for example due to coding amendments.

Quality assurance

Quality assurance measures were designed into the analysis plan, including standard processes to adjust and check the nutrition data before analysis was undertaken. As described above, this work focused primarily on ‘as consumed’ products, dealing with outliers and implausible values, and appropriate conversions from sodium to salt. 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.

This has included:

- checking datasets for implausible values, and excluding those from the analysis
- quality assurance of sub-category coding rules applied

- assessment of salt content ranges and distributions to ensure plausibility
- contacting business data suppliers for updated information where systematic errors are discovered in their data returns
- all results were independently replicated by a second analyst to check for methodological errors and all analytical code double checked

Appendix 3: Guide to tables

A range of tables are provided in the associated Microsoft Excel workbook. This guide explains how these tables have been constructed and how to interpret them. Please see Appendix 2 for further information about the data sources and methodology.

Table 1: Percentage contribution of food groups to average daily salt intake for adults aged 19 to 64 years (NDNS year 7 to 8)

This table uses data from the National Diet and Nutrition Survey (NDNS) to highlight how different food groups contribute to an adult's average daily salt intake. Please note that due to rounding, totals may not add up to 100%.

Table 2: Summary of achievement of average targets (salt per 100g) by product category for retailers and manufacturers, separately and combined, 2017 and 2018

This table highlights the number of average targets met, by category, for the in-home sector. Results are presented separately for retailers and manufacturers, and for retailers and manufacturers combined. The number of average targets met in each category is presented for both 2017 and 2018.

Table 3: Proportion of products at or below maximum targets (salt per 100g) for the out of home sector compared with manufacturers and retailers, 2017 and 2018

This table presents the proportion of products at or below the maximum targets for each sub-category. Results are presented for both the in-home sector (retailers, manufacturers and retailers and manufacturers combined) and the eating out of home sector.

Table 4: Achievement of average and maximum targets for the top 15 dietary sodium contributing salt target sub-categories, (identified via NDNS)

The results in this table represent the 15 salt reduction sub-categories that contribute, on average, the most salt to an adult's diet. These have been identified via the National Diet and Nutrition Survey (NDNS) rolling programme where NDNS food codes have been mapped across to the salt reduction sub-categories.

Table 5: Total sales and salt sales for retailer own label and manufacturer branded products

This table shows both the total volume of products purchased in each salt reduction category and the total salt purchased. Both of these are shown as tonnes. Results are presented for both 2017 and 2018, as well as the percentage contribution of each category to the whole and the percentage change between years.

Table 6: Sub-category results for manufacturers and retailers against the 2017 salt targets set for all sectors, 2017 and 2018

This table shows the detailed results for each sub-category for the in-home sector. The number of products used in the analysis are shown, as well as the average (and whether it is an average r or average p) and maximum salt targets for each sub-category. Results are shown for both 2017 and 2018, as well as for retailers and manufacturers separately and combined.

Table 7: Sub-category results for the eating out of home sector against the 2017 salt targets (salt per serving) set specifically for the out of home sector, 2017 and 2018

This table presents results for the eating out of home sector against the maximum per serving targets set for all sectors. Results are presented for both 2017 and 2018, including the number of products used in the analysis for each sub-category. Please note that for the eating out of home sector, only maximum targets were set.

Table 8: Sub-category results for the eating out of home sector against the maximum targets set for all sectors, 2017 and 2018

This table presents results for the maximum per serving targets set for the eating out of home sector. Results are presented for both 2017 and 2018, including the number of products used in the analysis for each sub-category.

Table 9: Detailed sub-category results for manufacturers and retailers against the 2017 salt targets set for all sectors, 2017 and 2018

This table presents all the sub-category analysis for the in-home sector. As well as the number of products used in the analysis for both 2017 and 2018, the proportions of both products and sales used in the analysis are also presented. Ranges of salt content for both the entirety of each sub-category, as well as the top 10 selling products are presented. The market split between retailers and manufacturers is presented, as is both the proportion of products and the proportion of sales at or below the maximum targets.

Table 10: Achievement of salt reduction targets specific to the eating out of home sector, 2017 and 2018 and Table 11: Achievement of maximum salt reduction targets set for all sectors for the out of home sector

These 2 tables present more detailed results for the eating out of home sector (table 1 for the categories specific to the eating out of home sector, table 2 for out of home products compared to the targets for all sectors). They present the number and proportion of products used in the analysis, as well as the ranges of salt content and the proportion of products below the maximum targets, for both 2017 and 2018.

Table 12: Average salt content for the top 15 dietary sodium contributing salt target sub-categories, 2017 and 2018

The data in this table shows how both the in-home sector and the eating out of home sector perform against the targets set for the top 15 sub-categories that contribute the most salt to an average adult's daily salt intake (presented as simple averages). As with previous tables, both the number of products used in the analysis and the average salt content are presented for both 2017 and 2018.

Table 13: Progress towards meeting the 2017 salt targets for the top manufacturers and retailers based on total salt sales in the category, for the 15 top dietary salt contributing sub-categories, 2018

This table presents results for the top selling businesses (in terms of total salt sales) in the 15 sub-categories that contribute the most dietary salt to an average adult's diet. Manufacturers and retailers are listed in alphabetical order within each category and not by volume of salt sales. The list includes businesses who account for the top 80% of salt sales. Any businesses which did not have at least 1% of sales in 2018 were

removed. Only products with ‘real’ data are included in this analysis and the proportion of products included in the analysis is shown.

Table 14: Progress towards meeting the 2017 salt targets (proportion of products that are at or below their category maximum salt target) for the top out of home businesses (excluding supermarket food-to-go) based on total salt sales of food products, 2018

This table presents results for the top businesses (in terms of salt sales) in the eating out of home sector for both the targets that are applicable to all sectors and those that are applicable to the eating out of home sector only. The businesses are presented in alphabetical order and not in terms of salt sales. Please note that nutrition information per 100g is not available for all businesses present in the table and that supermarket food-to-go businesses are not included.

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