

# Finding Healthier Breakfast Cereals and Yogurts in Ireland



## **Finding Healthier Breakfast Cereals and Yogurts in Ireland**

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## Executive summary

### ***Why this work was carried out***

For healthy eating, consumers are advised to follow the Food Pyramid, which comprises five food groups. Many different food categories are described within each of these food groups. Within each of the food categories there is a wide range of varieties to choose from.

Nutrition and health claims can be legally used by the food industry in Ireland to promote food products. While claims are regulated in order to ensure that they are scientifically valid, the overall nutritional quality in terms of sugar, fat and salt content of foods bearing health claims is not regulated. Therefore, assessment of the true nutritional quality of foods bearing health claims requires use of nutrition labelling, which has been mandatory on all pre-packaged foods marketed in the European Union (EU) since December 2016.

As part of its contribution to the prevention of obesity and associated diseases (cardiovascular disease, diabetes and cancer), the food industry in Ireland has made a commitment to improve the nutritional quality of food available for purchase in Ireland by reformulating foods produced so that they are lower in calories, fat, saturated fat and sugar. The Irish Government has requested the Food Safety Authority of Ireland (FSAI) to verify this reformulation activity, i.e. reduction in calories, fat, saturated fat and sugar. The FSAI is a member of the Department of Health (DOH)-led team responsible for setting nutritional targets for reformulation.

### ***Aims***

The aims of this work are to:

- 1) Examine the range of yogurt and breakfast cereal products currently on the Irish market, in order to explore the definitions and availability of healthier options.
- 2) Establish a baseline in order to assess progress in reformulation by the food industry in Ireland.
- 3) Explore if claims are more likely to be related to healthier options.
- 4) Propose targets for reformulation of breakfast cereals and yogurts in terms of fat, saturated fat and sugar.

### ***How this work was carried out***

The majority of breakfast cereal and yogurt products available on the Irish market were studied. Depending on the amounts of sugar, fat and saturated fat – and, in the case of breakfast cereals, fibre and salt – declared on the label, these products were described as ‘Healthier Choice’ or ‘Other’. The criteria used to identify ‘Healthier Choice’ options were based on nutrition claim definitions, with some slight adjustments in order to ensure that a reasonable proportion of food products could meet the ‘Healthier Choice’ descriptions proposed.

‘Healthier Choice’ breakfast cereals were described on the basis of the nutritional composition of the cereal product in whatever portion size the manufacturer recommended. In this manner, the recommended portion of cereal was defined as ‘low sugar’ if it contained  $\leq 6$  g of sugar (i.e. 1.5 teaspoons), ‘low fat’ if it contained  $\leq 3$  g of fat, ‘low saturated fat’ if it contained  $\leq 1.5$  g of saturated fat, ‘low salt’ if it contained  $\leq 0.3$  g of salt, and a ‘source of fibre’ if it contained  $\geq 3$  g of fibre. Where necessary, the ‘Healthier Choice’ criteria for fat and saturated fat were increased in order to accommodate the natural fats in nuts. Only breakfast cereals meeting all five criteria were deemed a ‘Healthier Choice’.

Given that the average portion size of yogurt is 125 g, ‘Healthier Choice’ yogurts were described on the basis of their composition per 100 g with respect to three nutrients: sugar, fat and saturated fat. All yogurts contain sugar, due to the presence of natural milk sugar (lactose), which usually varies between 3 g and 7 g per 100 g. Two criteria were used to define ‘low sugar’ for yogurts and these included  $\leq 5$  g of sugar per 100g for Natural yogurts which contain no added sugar, and  $\leq 9$  g of sugar per 100 g for Flavoured yogurts. This allows for one teaspoon (4 g) of added sugar for Flavoured yogurts, which was deemed to be reasonable. The same criteria used for breakfast cereals were adopted for

yogurts to describe 'low fat' ( $\leq 3$  g of fat) and 'low saturated fat' ( $\leq 1.5$  g of saturated fat), except that these cut-offs were based on 100 g of yogurt (a small portion), whereas the portion sizes of breakfast cereals varied between 25 g and 50 g (in accordance with manufacturers' recommendations). Only products meeting all five criteria were deemed a 'Healthier Choice'.

The number of nutrition and health claims carried on 'Healthier Choice' products was compared with those carried on 'Other' products, in order to explore if claims were more likely to be related to healthier options.

## MAIN FINDINGS OF THIS WORK

### **Overall**

More than 450 breakfast cereals (n=453) and more than 570 yogurts (n=578), available on the Irish market from July 2016 to March 2017, were studied.

The application of nutritional cut-offs for 'low sugar', 'low fat' and 'low saturated fat' – and, for breakfast cereals in particular, 'low salt' and 'source of fibre' – resulted in only 13% of breakfast cereals and 24% of yogurts meeting the proposed 'Healthier Choice' criteria. This indicates a challenging food environment for consumers trying to make healthier eating choices.

Some products were found to be exceptionally high in sugar, while others were extremely high in fat and saturated fat, so that some breakfast cereals were more like a crumbled biscuits and some yogurts were more like dessert.

The presence of nutrition and health claims on products did not differentiate between those that were 'Healthier Choice' and 'Other' on the market.

### **Breakfast cereals**

Breakfast cereals were grouped into five categories: Oats, Compressed Biscuit, Flake/Puffed, Muesli and Granola. Some of these categories were significantly more likely to meet the proposed 'Healthier Choice' criteria. Regardless of category, the presence of nutrition and health claims on labels did not differ between breakfast cereals that were a 'Healthier Choice' and 'Other' types of breakfast cereal.

More than 100 different oat-type cereals were identified. Oat-type cereals were found to be the healthiest option because they were the only type where the fibre content tended to be greater than that of both fat and sugar.

More than 60 different Granola-type cereals were found on the market and none met the proposed 'Healthier Choice' criteria. In addition, the fat content was mainly due to oil used in the manufacture of Granola rather than due to added nuts and seeds. The calories, fat, sugar and fibre content of an average single serving (45 g) of Granola was found to be comparable to that of three digestive-type biscuits (45 g).

Among all types of breakfast cereals analysed, some products provided very high amounts of sugar – up to four or five teaspoons per serving. This was mainly due to the addition of sugar, syrup and honey. While dried fruit can be expected to add to the sugar content of cereals, the study found that the sweetness contributed by dried fruit should reduce the amounts of added sugar required. The cut-off of 6 g of sugar per serving of breakfast cereal should still be feasible regardless of dried fruit content.

With regard to salt, only one breakfast cereal of all those studied failed to meet the low salt cut-off of 0.3 g per serving. This reflects the benefits of the ongoing work that the FSAI has undertaken with the food industry in Ireland since 2003 to reduce salt in processed foods.

### **Yogurts**

The 578 different yogurt products on the market were categorised into three types: Natural (n=48), Flavoured (n=450) and Luxury (n=80). Significant differences were found in the proportions of 'Healthier Choice' products within these categories. The presence of nutrition and health claims did not differ between yogurts that were a 'Healthier Choice' and other products.

Less than one-fifth of the 48 Natural yogurts studied met the proposed 'Healthier Choice' criteria. Some yogurts in this category were very high in fat (approximately 10 g per 100 g) and saturated fat (approximately 6 g per 100 g); this was due to the addition of cream by the manufacturer. Some Natural yogurts failed to meet the sugar cut-off of 5 g per serving; this was due to the natural sugar in milk (lactose), and not to added sugar. Current EU labelling provides information on total sugars in food products and it does not differentiate between naturally present sugars and 'added sugar', which is the type of sugar that needs to be limited. This suggests that consideration should be given in the EU to listing the amount of 'added sugar' on nutrition information labelling, in order to differentiate between added sugar and natural sugar in foods.

Flavoured yogurt represented the biggest category of yogurt products on the market in Ireland. Just under one-third (29%) met the cut-offs for 'Healthier Choice'. Certain coconut-based dairy-free yogurts were extremely high in fat (up to 25 g per serving) and saturated fat (up to 22 g of saturated fat per serving). At these fat levels, such products provide more total fat and almost twice the amount of saturated fat than 100 mL of single cream. 'Other' Flavoured yogurts that did not meet the proposed 'Healthier Choice' criteria contained added cream and had high amounts of fat (up to 10 g per serving) and saturated fat (up to 7 g per serving).

Very high quantities of sugar were also found in some of the 'Other' Flavoured yogurts – as much as 19 g of sugar per 100 g (approximately five teaspoons). These products tended to be chocolate-flavoured products.

None of the products in the Luxury yogurt category met the sugar cut-off, and less than 10% met the cut-offs for low fat or low saturated fat. With regard to the calorie, fat and sugar content per 100 g, Luxury yogurts were found to be comparable to a dessert such as a fruit mousse. The fact that some yogurts equate with desserts makes the case for the reformulation of yogurts on the Irish market.

## Conclusions

There is a wide range of products available on the Irish market in the breakfast cereal and yogurt food categories, which provides consumers with choice. This is important because different consumers like different types of breakfast cereals and yogurts.

The work carried out in this study shows that mandatory nutrition labelling can be used as a reliable guide to identify products that are a 'Healthier Choice'. The only drawback is that mandatory nutrition labelling is always presented per 100 g of food, which can be challenging for consumers because most foods are not consumed in 100 g servings. Optional nutrition labelling on the basis of portion size may be provided for some products (e.g. front-of-pack (FOP) labelling). Although FOP labelling is more accessible for consumers, it cannot be used to compare the range of products on a supermarket shelf, as it is not consistently present due to the lack of harmonised labelling schemes.

Furthermore, the presence of nutrition and health claims did not differentiate between products that met the proposed 'Healthier Choice' criteria from products that did not (i.e. 'Other'), despite being very different in terms of nutritional quality for healthy eating. This is due to the absence of limits for fat, saturated fat and sugar in foods bearing nutrition and health claims in EU legislation. This work highlights the negative impact of this lack in legislation.

Firm commitments to reformulate food products – so that they are lower in calories, fat, saturated fat and sugar – have been made by the food industry in Ireland, as outlined in the Healthy Ireland report, *A Healthy Weight for Ireland: Obesity Policy and Action Plan 2016–2025*.<sup>1</sup> This work shows that the reformulation of foods recommended as part of healthy eating, such as breakfast cereals and yogurts, should be prioritised in order to improve the impact on population health. This study provides a baseline that can be used by the FSAI to verify reformulation progress in the breakfast cereal and yogurt food categories.

The study informs the setting of reformulation targets for fat, saturated fat and sugar in breakfast cereals and yogurts. There are strong indications that a range of targets will be required in order to accommodate the wide variation of products that cater for consumer tastes, e.g. products containing nuts and seeds require more liberal allowances for fat. In order to progress reformulation in a way that accommodates the wide variety of products that consumers enjoy, it is imperative that the food industry in Ireland engages with the DOH in this work, so as to ensure feasibility and success.

# 1. Why this work was carried out

## 1.1 HEALTHY EATING IN IRELAND – WHERE BREAKFAST CEREALS AND YOGURTS FIT

Healthy eating guidelines promote adequate intakes of all nutrients, so as to enable people to reach their full potential physically and mentally. In Ireland, food choices that are low in fat, saturated fat and sugar are recommended, in order to protect against cardiovascular disease, obesity and diabetes. In addition, high-fibre foods are recommended, in order to address low intakes of fibre in Ireland and to protect the population against gastrointestinal diseases, including colon cancer.

Recently, healthy eating advice in Ireland was updated and a revised Food Pyramid was published in December 2016.<sup>2</sup> As shown in Figure 1, the Food Pyramid uses five food groups to guide consumers on the foods they need for healthy eating. Within each food group, there are many different categories of foods (e.g. breads, cereals and potatoes), and within each category there are hundreds of different varieties to choose from. This study proposes approaches that can be used to identify the healthier food choices within two types of foods commonly eaten in Ireland:

1. Breakfast cereals (within the Wholemeal Cereals and Breads, Potatoes, Pasta and Rice Food Group)
2. Yogurts (within the Milk, Yogurt and Cheese Food Group)

According to *Healthy eating, food safety and food legislation: A guide to supporting the Healthy Ireland Food Pyramid*<sup>3</sup>, the healthier options among breakfast cereals are:

- High in **fibre**
- Low in **fat**
- Low in **saturated fat**
- Low in **sugar**
- Low in **salt**.

According to *Healthy eating, food safety and food legislation: A guide to supporting the Healthy Ireland Food Pyramid, Healthy Eating Guidelines in Ireland*<sup>3</sup>, the healthier options among yogurts are:

- Low in **fat**
- Low in **saturated fat**
- Low in **sugar** (see Figure 1).

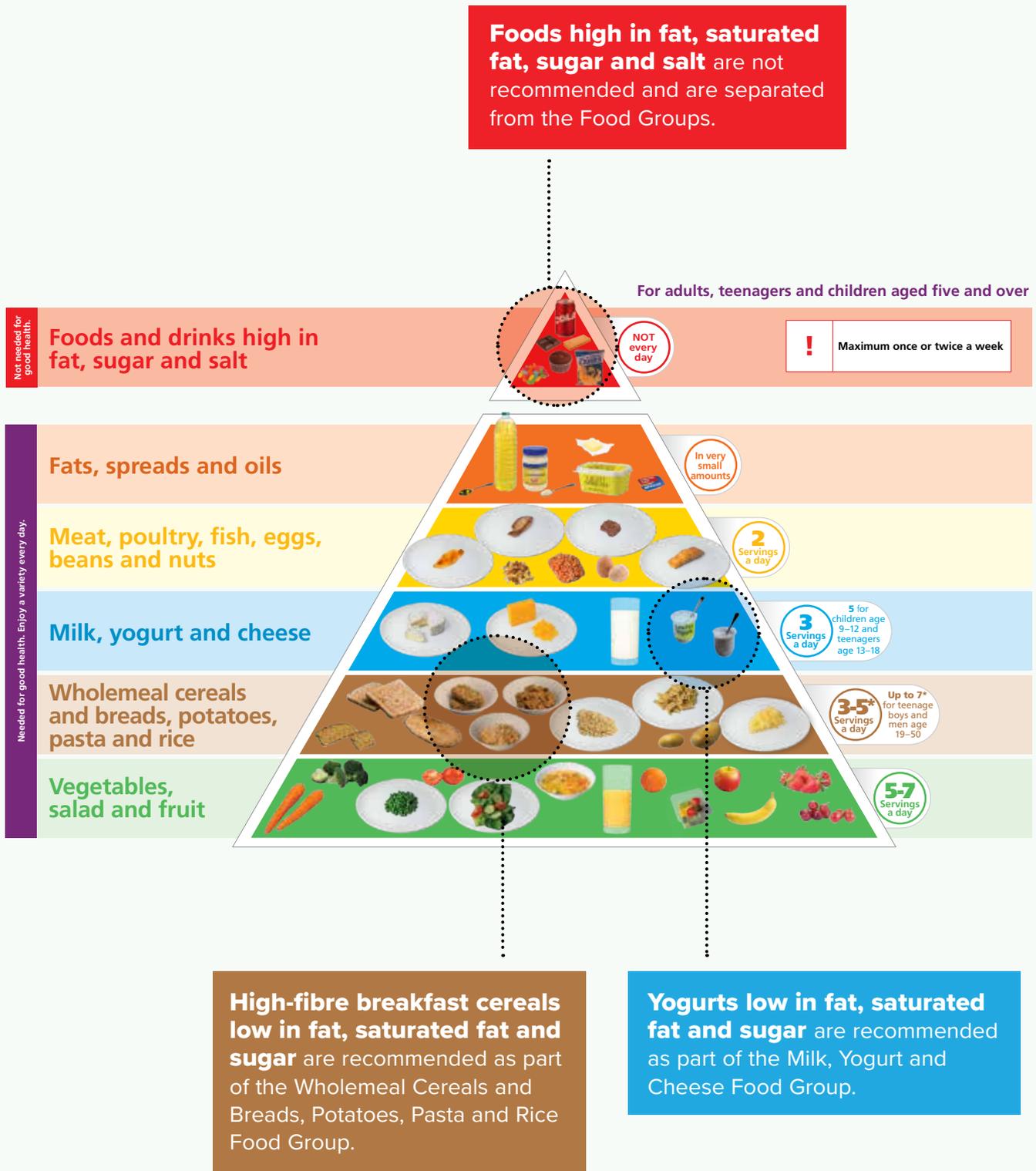
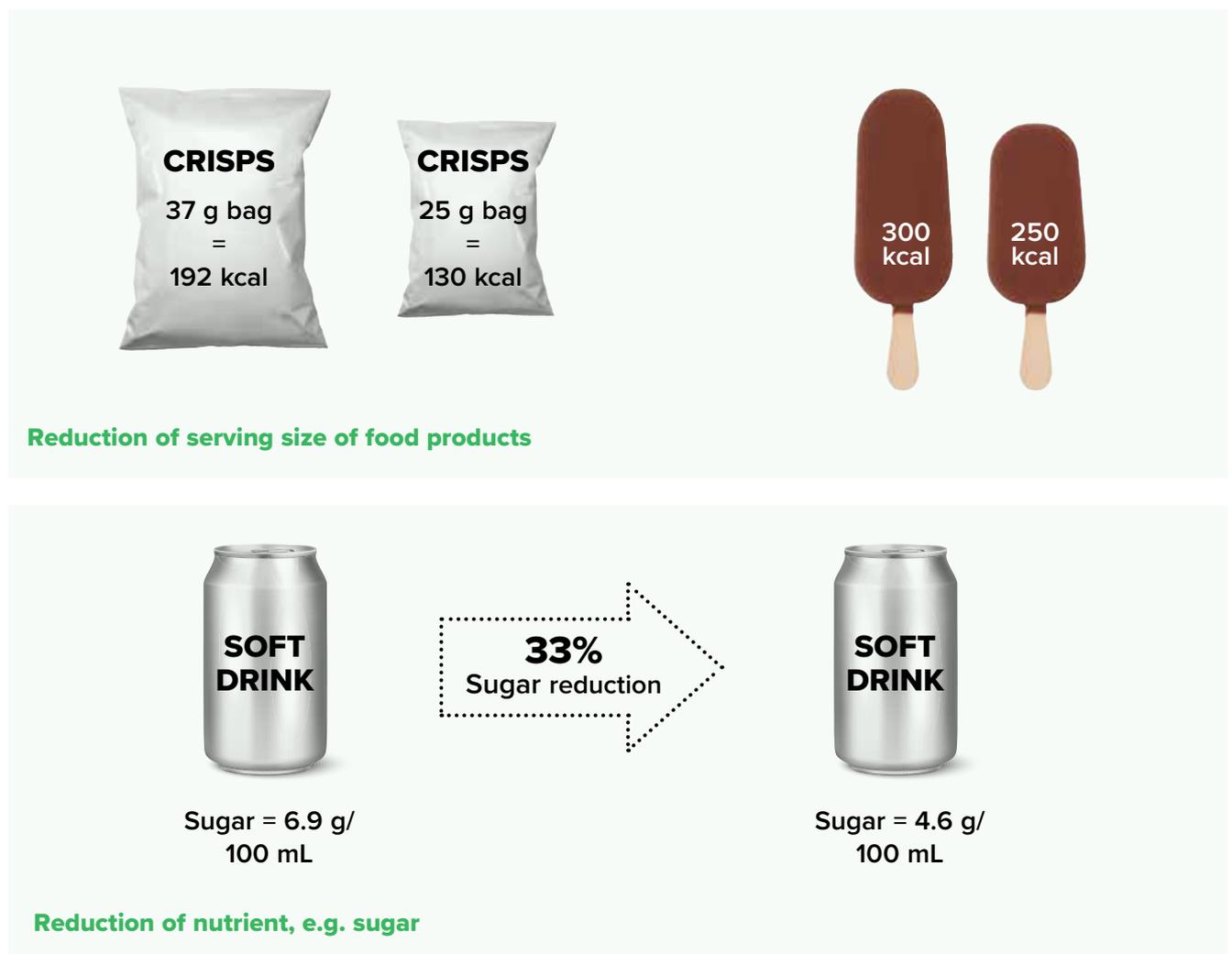


Figure 1 Updated Healthy Eating Advice Food Pyramid, Department of Health (2016)<sup>1</sup>

## 1.2 REFORMULATION TOWARDS HEALTHIER PROCESSED FOODS – PROGRESS TO DATE

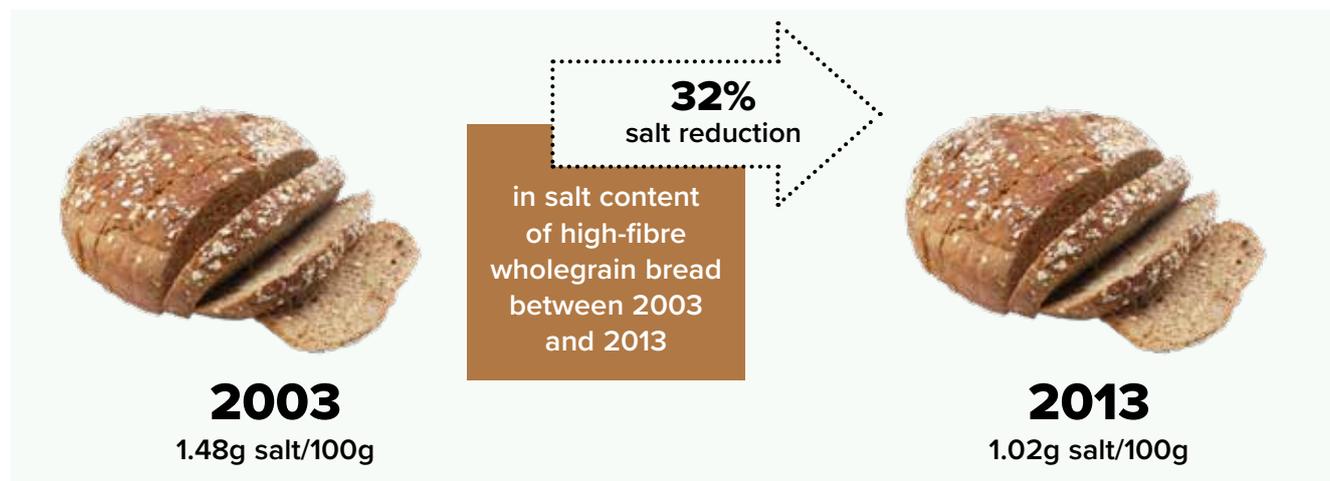
The food industry in Ireland is undertaking many initiatives to reformulate its products as part of its contribution to reducing Ireland's food-related risk factors for obesity, diabetes, cardiovascular disease and cancer. Reformulation of food products – so that they are lower in calories, fat, saturated fat and sugar – is one of the actions set out in *A Healthy Weight for Ireland – Obesity Policy and Action Plan 2016–2025*.<sup>1</sup> The Food Safety Authority of Ireland (FSAI) is working with partners in the Healthy Ireland (HI) Framework to support and guide industry, in order to ensure that reformulation is effective and successful. This work recognises the significant amount of innovation being undertaken by the food industry to produce healthier, safer foods for the population in Ireland.

One of the FSAI's roles is to verify the level of reformulation achieved by the food industry in Ireland. To date, most of the reformulation efforts by the food industry have focused on foods that are not recommended as part of healthy eating, e.g. reducing the portion sizes of confectionery and snack foods, as well as reducing the amount of sugar in soft drinks (see Figure 2). Foods that are high in fat, sugar and salt are described as foods that are not needed for good health in Ireland's Food Pyramid (see Figure 1). Greater positive impacts on population health can be achieved through the reformulation of foods that are recommended for healthy eating, such as bread, breakfast cereals and yogurts. For example, salt reduction innovation by the food industry in Ireland has substantially reduced the population's salt intake through reformulation of staple foods such as bread.<sup>4</sup>



**Figure 2** Reformulation practices

a) Examples of reformulation practices which focus on foods that are high in fat, saturated fat, sugar and salt



**Figure 2 Reformulation practices**

b) Example of reformulation of foods which are recommended for healthy eating, e.g. wholegrain bread – in this case, reduction of salt content between 2003 and 2013.

### 1.3 HOW MANDATORY NUTRITION LABELLING CAN HELP CONSUMERS

Since December 2016, it has been mandatory to provide nutrition labelling outlining the amount of nutrients relevant for healthy eating – such as energy (calories), fat, saturated fat, total sugars and fibre – on most pre-packaged foods in the European Union (EU).<sup>5</sup> This information is based on the ideal average adult diet per day, which provides:

- Energy – 2,000 kilocalories
- Saturated fat – limit of 20 g (10% of energy).

These targets meet international dietary guidelines for healthy eating.

In EU Member States, all nutrition information must be provided on the basis of 100 g/100 mL of food/liquid and must be outlined on the packaging. Because very few foods/liquids are consumed in 100 g/100 mL quantities, many consumers find it difficult to use this nutrition information to assess the nutritional quality of food products. While some food companies provide this nutrition information on the basis of their recommended portion size, this is voluntary and, therefore, only available for some foods.

The present study explored how mandatory nutrition labelling information, which is provided per 100 g (or 100 mL) on all pre-packaged foods, can be used to develop a baseline to assess progress in reformulation by the food industry in Ireland.

### 1.4 NUTRITION AND HEALTH CLAIMS ON FOOD PRODUCTS

Under EU legislation, nutrition and health claims can be used by the food industry to highlight positive aspects of food products.<sup>6</sup> Claims can be displayed in a flexible manner in order to enhance consumer understanding and, in the case of pre-packaged foods, are often displayed prominently.

Two types of claims can be made:

- A *nutrition claim* is any claim that makes statements about the nutritional content of a food, e.g.:
  - Low sugar – no more than 5 g per 100 g
  - Low fat – no more than 3 g per 100 g
  - Low saturated fat – no more than 1.5 g per 100 g
  - Source of fibre – at least 3 g per 100 g
  - Low salt – no more than 0.3 g per 100 g.

- A *health claim* is any claim that states, suggests or implies that a relationship exists between a food category, a food, or one of its constituents and health, e.g.:
  - Food X is low in saturated fat, and lower intake of saturated fat helps to maintain normal blood cholesterol levels and improves cardiovascular health.
  - Food Y contains oat grain fibre, which contributes to an increase in faecal bulk.

Health claims undergo rigorous evaluation in order to ensure that claims are scientifically valid. The majority (67–75%) of authorised health claims relate to vitamins and minerals and their beneficial impact on health.<sup>7</sup> However, there is no regulation of the overall nutritional quality of food products bearing health claims regarding fat, saturated fat, sugar and fibre content. For example, foods bearing health claims in relation to vitamin content could potentially be high in fat, saturated fat and sugar, and thus not recommended for healthy eating. This overall nutritional quality of foods in relation to fat, saturated fat, sugar and salt content is described in terms of nutrient profiles.

Nutrient profiles set limits to the amounts of saturated fat, sugar and salt in foods permitted to bear claims. While these are provided for in EU Regulation 1924/2006, they have not been established.

The absence of nutrient profiles on foods bearing nutrition and health claims can be confusing. For example, as shown in Figure 3, a Natural yogurt was identified in this study which bore a ‘no added sugar’ claim, but which had a very high fat and saturated fat content (10 g of fat and 6.4 g of saturated fat per 100 g). Just one average serving (125 g) of this yogurt provided 8 g of saturated fat, which is more than one-third of the total daily recommended intake of saturated fat (saturated fat should be limited to less than 20 g per day in a 2,000-calorie-a-day diet). The ingredient list on this product included cream. This product would not be recommended for healthy eating, as it does not match the profile of a low-fat, low in saturated fat product.

This ‘no added sugar’ claim is unnecessary as natural yogurts do not contain added sugar. Typical nutrition claims on natural yogurts indicate the product is ‘low’ or ‘reduced’ in fat. In fact, this product has added fat. See ingredients where ‘cream’ has been added and the very high levels of fat and saturates in the nutrition information.

**Ingredients**

**NATURAL GREEK STYLE YOGURT**

Organic whole **milk**, organic **cream** (milk), organic skimmed **milk** powder, cultures (*Streptococcus Thermophilus*, *Bifidobacterium*, *Lactobacillus casei*, *Lactobacillus bulgaricus*)

**Nutrition information**

TYPICAL VALUES	PER 100 G
<b>Energy</b>	<b>535 kJ/129 kcal</b>
<b>Fat</b>	<b>9.9 g</b>
of which saturates	6.4 g
<b>Carbohydrate</b>	<b>5.2 g</b>
of which sugars	6.4 g
<b>Fibre</b>	<b>&lt;0.5 g</b>
<b>Protein</b>	<b>4.7 g</b>
<b>Salt</b>	<b>0.12 g</b>
<b>Minerals</b>	
Calcium (18% Reference intake (RI))	147 mg
RI of an average adult (84,000 kJ/2,000 kcal)	
<b>Note: 100% of sugars are naturally occurring milk sugars</b>	

**Figure 3** Some Natural yogurts (which can legally claim to have ‘no added sugar’) may have added cream resulting in a product which is high in fat and high in saturated fat.

## 1.5 AIMS OF THIS STUDY ON BREAKFAST CEREALS AND YOGURTS MARKETED IN IRELAND

The aims of this work are to:

- 1) Examine the range of yogurt and breakfast cereal products currently on the Irish market, in order to explore the definitions and availability of healthier options.
- 2) Establish a baseline, in order to assess progress in reformulation by the food industry in Ireland.
- 3) Explore if claims are more likely to be related to healthier options.
- 4) Propose targets for reformulation of breakfast cereals and yogurts in terms of fat, saturated fat and sugar.

## 2. Finding the healthier breakfast cereals and yogurts in Ireland – overview of the approaches taken

A study to identify the majority of breakfast cereals and yogurts on the market in Ireland was completed between July 2016 and March 2017.<sup>8,9</sup> This involved website searches (supermarket, product and general shopping websites), followed by in-store surveys of different types of shopping outlets, from large supermarkets to small specialised stores in Ireland. According to the range of varieties on the market, products were grouped into categories – five categories in the case of breakfast cereals and three in the case of yogurts. This enabled analysis to be undertaken, in order to determine which categories of breakfast cereals and yogurts were more likely to be a ‘Healthier Choice’.

### 2.1 IDENTIFYING ‘HEALTHIER CHOICE’ PRODUCTS

A range of data was collected from product labels; this is described in detail in Chapters 3 and 4. ‘Healthier Choice’ products were determined on the basis of mandatory nutrition labelling information for total fat, saturated fat and sugar, and, in the case of breakfast cereals, fibre. On labels, this nutrition information is required to be presented per 100 g of food. Given that there are between two and four recommended servings in 100 g of breakfast cereal, the nutrition information was calculated for each breakfast cereal on the basis of the serving size recommended by the manufacturer. For yogurts, the nutrition information per 100 g was used, as this is close to the usual 125 g serving size of yogurt.

‘Healthier Choice’ products were defined as those that were lower in fat, saturated fat and sugar compared with the full range of products identified as being on the market in this study. The provision of fibre was an additional essential criterion for ‘Healthier Choice’ breakfast cereals. Definitions for ‘low fat’, ‘low saturated fat’, ‘low sugar’ and ‘source of fibre’ were developed based on the nutrition claims criteria:

- Low fat:  $\leq 3$  g of fat per 100 g of food
- Low saturated fat:  $\leq 1.5$  g of saturated fat per 100 g of food
- Low sugar:  $\leq 5$  g of sugar per 100 g of food
- Source of fibre:  $\geq 3$  g of fibre per 100 g of food.

For breakfast cereals, these criteria for nutrition claims were applied as cut-offs per manufacturer-recommended serving, whereas for yogurts, they were applied per 100 g of food.

Where necessary, these cut-offs were adjusted so as to ensure that there was a reasonable availability of ‘Healthier Choice’ products on the market in Ireland (see Chapters 3 and 4 for more details).

### 2.2 ARE PRODUCTS BEARING NUTRITION AND HEALTH CLAIMS HEALTHIER OPTIONS?

In order to explore whether the presence of claims on labels characterised ‘Healthier Choice’ products, this study assessed the proportion of products bearing nutrition and health claims that met ‘Healthier Choice’ criteria compared with those that did not, i.e. ‘Other’ products in that food category.

### 2.3 ARE SOME BREAKFAST CEREALS AND YOGURTS MORE LIKE CRUMBLIED BISCUITS AND DESSERTS?

Finally, an analysis of products that were least likely to meet the ‘Healthier Choice’ cut-off criteria (i.e. outliers) was conducted. This is described in more detail in Chapters 3 and 4.

### 3. Identifying ‘Healthier Choice’ breakfast cereals in Ireland

#### 3.1 HOW ‘HEALTHIER CHOICE’ BREAKFAST CEREALS WERE IDENTIFIED

A study of the majority of breakfast cereals on the market in Ireland was completed between July 2016 and March 2017, as described in Chapter 2 (see Figure 4).<sup>8</sup> Data collected from product labels included: brand name, product name, nutritional information (calories, total fat, saturated fat, salt<sup>a</sup>, sugar and fibre), manufacturer’s recommended serving size, and nutrition and health claims. Breakfast cereals were categorised into groups based on the type of product (appearance and product name). This resulted in five groups: Oats, Compressed Biscuit, Flake/Puffed, Muesli and Granola.

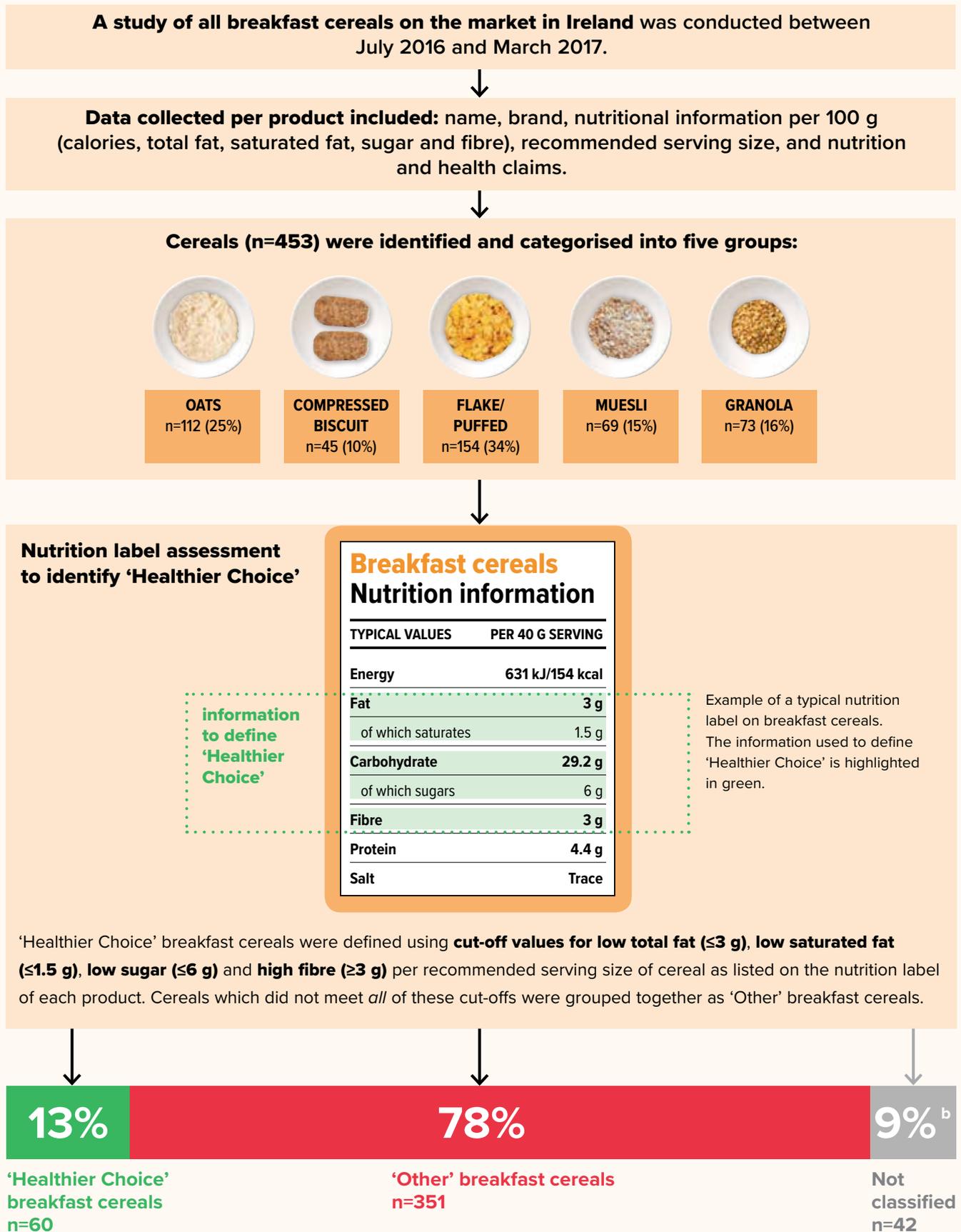
Mandatory nutrition information on product labels was used to characterise ‘Healthier Choice’ products using cut-offs which described products that contained fibre and were lower in fat, saturated fat and sugar compared with the full range of products identified on the Irish market (see Chapter 2). These nutrient cut-offs were developed by testing them on a single serving size of all breakfast cereals identified on the market. The cut-offs that resulted in a reasonable number of products meeting the ‘Healthier Choice’ criteria were finally chosen to describe breakfast cereals that were low in fat, saturated fat and sugar, and that provided fibre. These cut-offs were based on criteria used for making legal nutrition claims on foods, with the exception that they applied to a serving of cereal (i.e. a single serving size based on the amount recommended by the product manufacturer) rather than to 100 g of cereal, which represented between two and four manufacturer-recommended servings. A slight adjustment was necessary for the ‘low in sugar’ criterion, as 6 g of sugar or less per serving of cereal resulted in a much higher number of products meeting the ‘Healthier Choice’ criteria compared with 5 g of sugar or less (5 g of sugar per 100 g of food is the criterion for low-sugar claims) (Table 1).

In summary, ‘Healthier Choice’ breakfast cereals were defined as those where a single bowl/serving (based on the amount of product recommended by the manufacturer as a single serving size) contains 3 g or less fat, 1.5 g or less saturated fat, 6 g or less sugar, and 3 g or more fibre (see Table 1). ‘Other’ breakfast cereals were defined as those not meeting one or more of the cut-offs for ‘Healthier Choice’ breakfast cereals.

**Table 1** Cut-offs used to describe characteristics of ‘Healthier Choice’ breakfast cereals

Characteristics of a ‘Healthier Choice’ breakfast cereal	Cut-off
Low in total fat	≤3 g
Low in saturated fat	≤1.5 g
Low in sugar	≤6 g
High in fibre	≥3 g

<sup>a</sup> As all breakfast cereals were found to be low in salt, salt was not included in the criteria for ‘Healthier Choice’ breakfast cereals.



**Figure 4** How the study was carried out for breakfast cereals and top-line results

<sup>b</sup> Some breakfast cereals (n=42) did not declare dietary fibre content. These breakfast cereals were not classified as 'Healthier Choice' or 'Other' due to missing a value for fibre on the nutrition label of the product.

### 3.2 OVERVIEW OF BREAKFAST CEREALS AVAILABLE IN IRELAND

A wide variety of breakfast cereals (n=453) were found on the Irish market, supporting research which shows that breakfast cereal consumption in Ireland is high.<sup>10</sup> While many different types of products were found, five main groups describe the range available: Oats, Compressed Biscuit, Flake/Puffed, Muesli and Granola.

Flake/Puffed varieties (n=154) represented more than one-third (34%) of breakfast cereals on the Irish market, while Oats (n=112) represented one-quarter (25%), followed by Granola (n=73; 16%), Muesli (n=69; 15%) and Compressed Biscuit types (n=45; 10%). While recommended serving sizes varied between 25 g and 50 g, average serving sizes for each breakfast cereal category were 30 g for Flake/Puffed, 40 g for Oats and Compressed Biscuit, and 45 g for Muesli and Granola.

The application of the cut-off criteria to all 453 cereals resulted in 13% (n=60) being identified as 'Healthier Choice' breakfast cereals and 78% (n=351) being categorised as 'Other' breakfast cereals (see Figure 4).<sup>b</sup>

The average nutrient content of all the breakfast cereal products together is outlined in Figure 5. This shows that average values (median scores) for breakfast cereals on the market in Ireland meet the criteria for low fat, low saturated fat, low sugar and high fibre. Although this demonstrates that the cut-off criteria adopted for defining 'Healthier Choice' products are reasonable, it also indicates that while some cereals on the market in Ireland meet the 'Healthier Choice' criteria, there are many that do not.

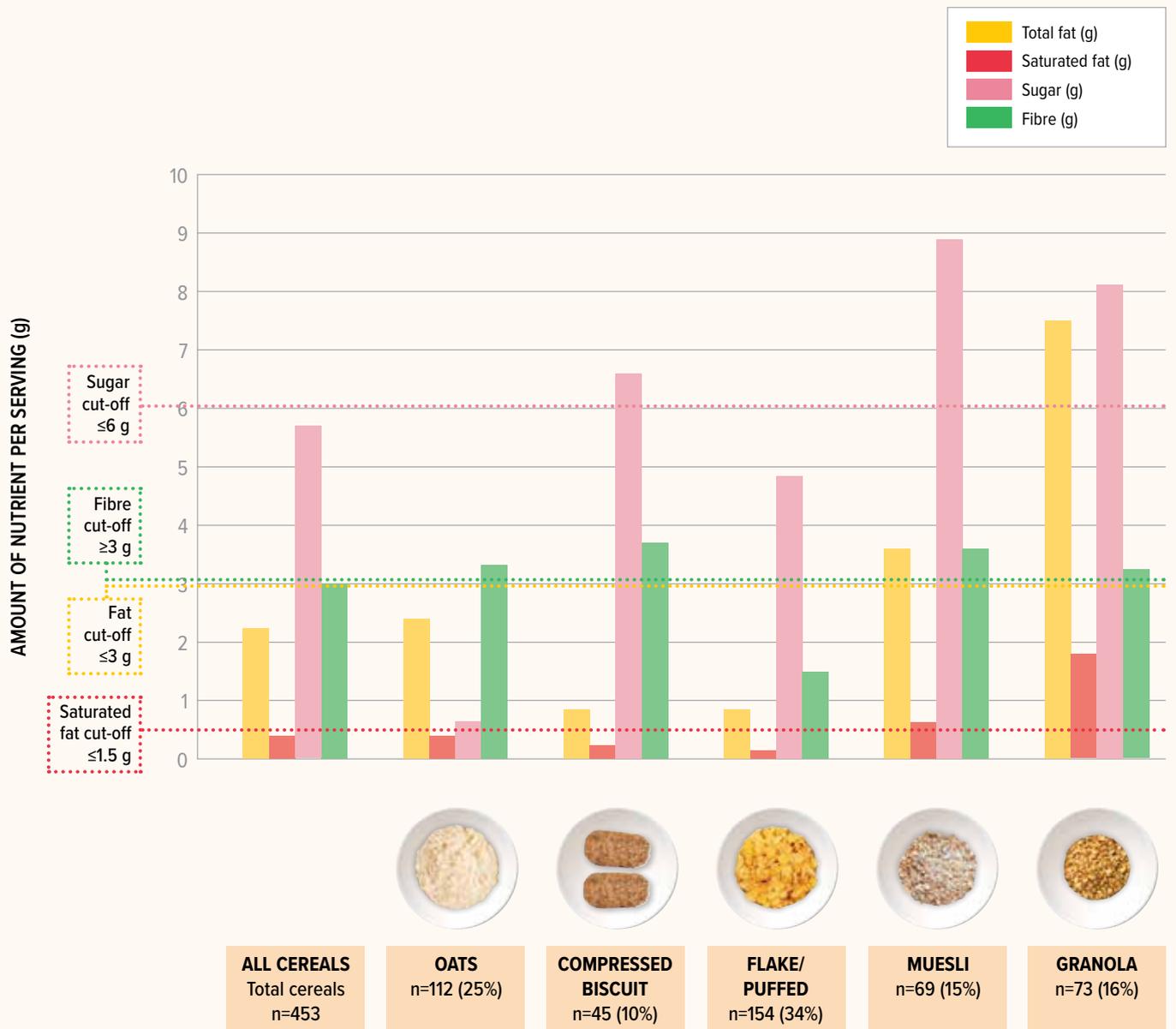
The average nutrient content of each of the five different categories of cereals shown in Figure 6 highlights which types are best in terms of meeting the 'Healthier Choice' criteria. Overall, 'Oats' was identified as the best option because it was the only type where the average fibre content was greater than that of both fat and sugar (Figure 6). Granola was revealed to be the least healthy type, as it was the only cereal group where the average fibre content was lower than that of both fat and sugar. Muesli emerged as the cereal type that was highest in sugar.

The proportions of cereal groups meeting each of the nutrient cut-offs shown in Figure 5 indicate which nutrients were most challenging in terms of meeting the 'Healthier Choice' criteria. The 'low sugar' target proved most challenging for the Compressed Biscuit, Muesli and Granola cereal types, where less than 20% met the limit of 6 g per recommended serving size (6 g=1.5 teaspoons). Fibre was an issue for Flake/Puffed-type cereals, where only 20% met the criterion of 3 g per recommended serving size. Only 3% of Granola-type cereals were low in fat (less than 3 g per recommended serving size).

Overall:

- There is a wide range of different types of products within five main cereal groups on the market in Ireland.
- The approaches used to identify 'Healthier Choice' breakfast cereals were shown to be feasible, in that average values (median scores) of the total group of cereals met the nutrient cut-off criteria for a 'Healthier Choice' product.
- These nutrient cut-off criteria for a 'Healthier Choice' product revealed clear distinctions between different types of cereal products on the market in terms of fat, saturated fat, sugar and fibre content.
- Choosing an Oats cereal product rather than Granola or Muesli gives consumers a far better chance of choosing a high-fibre product that is low in fat, saturated fat and sugar.

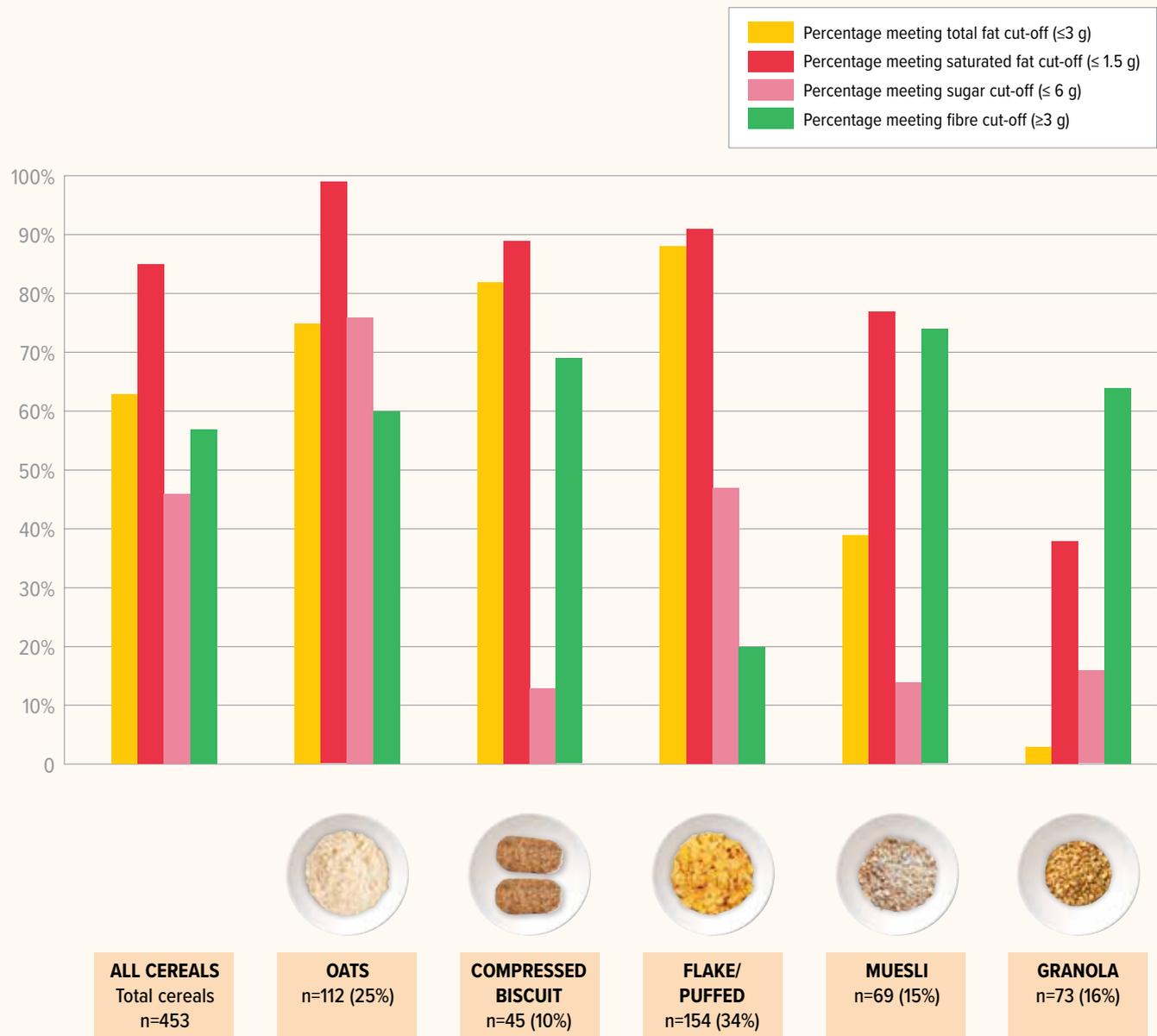
These issues are further explored for each type of cereal individually in Section 3.3.



**Figure 5** Average\* nutrient content of all breakfast cereals on the Irish market, and of each cereal category, on the basis of a serving size recommended by manufacturers

The cut-offs (total fat, saturated fat, sugar) used to describe ‘Healthier Choice’ breakfast cereals are also displayed on the graph.

\*Average refers to median value.



**Figure 6** Percentage of breakfast cereals (at recommended serving size) meeting each of the nutrient cut-offs for 'Healthier Choice'

### 3.3 COMPARISON OF 'HEALTHIER CHOICE' AND 'OTHER' BREAKFAST CEREALS

#### 3.3.1 Comparison of 'Healthier Choice' Oats versus 'Other' Oats

- Approximately one-third of oat-type cereals on the market met all of the 'Healthier Choice' criteria (Table 2), making Oats the best cereal type on the Irish market – i.e. the cereal type with the highest proportion of products defined as 'Healthier Choice'.
- Some of the other oat-type cereals on the market (i.e. those not meeting the 'Healthier Choice' criteria) contained very high amounts of sugar – as much as 15 g of sugar (approximately four teaspoons) per recommended serving size. These were mainly oat-type cereals flavoured with fruit or honey.
- Despite Oats cereal products that met the cut-off criteria for 'Healthier Choice' being very different in terms of nutritional quality than 'Other' oat-type cereals, there were no statistically significant differences in terms of the proportion of each type of product bearing nutrition and health claims on labels.

**Table 2** Comparison of 'Healthier Choice' Oats versus 'Other' Oats per serving size recommended by the manufacturer



	'Healthier Choice' Oats	'Other' Oats
<b>% (n)</b>	<b>32 (35)</b>	<b>68 (73)</b>
<b>Energy (kcal)</b> Average* (Min–Max)	148 (77–180)	142 (98–281)
<b>Total fat (g)</b> Average* (Min–Max)	2 (0–3)	2 (1–5)
<b>Saturated fat (g)</b> Average* (Min–Max)	0 (0–1)	0 (0–5)
<b>Sugar (g)</b> Average* (Min–Max)	1 (0–3)	2 (0–15)
<b>Fibre (g)</b> Average* (Min–Max)	4 (3–7)	3 (1–6)
<b>Nutrition claims</b> % (n)	57 (20)	75 (55)
<b>Health claims</b> % (n)	37 (13)	48 (35)
<b>Nutrition and health claims</b> % (n)	57 (20)	73 (53)

\*Average = median value

### 3.3.2 Comparison of 'Healthier Choice' Compressed Biscuit versus 'Other' Compressed Biscuit cereals

- Almost one-third of all Compressed Biscuit-type cereals were considered 'Healthier Choice' (Table 3), making this type of cereal the second best on the Irish market in terms of having a high proportion of products defined as 'Healthier Choice'.
- Some of the 'Other' Compressed Biscuit-type cereals, i.e. those not meeting the 'Healthier Choice' criteria, contained very high amounts of fat and sugar. Some of the high-sugar Compressed Biscuit cereals contained as much as 12 g of sugar (approximately three teaspoons) and were mainly chocolate-flavoured types.
- The high-fat Compressed Biscuit cereals contained nuts and oils, such as rapeseed oil. Therefore, although some of the 'Other' cereals in this category contained as much as 10 g of fat (equivalent to a pat of spreadable fat), the saturated fat content was not very high.
- Despite 'Healthier Choice' compared with 'Other' Compressed Biscuit cereals being very different in terms of nutritional quality for healthy eating, there were no differences in terms of the proportion of each type of product bearing nutrition and health claims on labels.

**Table 3 Comparison of 'Healthier Choice' Compressed Biscuit versus 'Other' Compressed Biscuit cereals per serving size recommended by the manufacturer**



	'Healthier Choice' Compressed Biscuit	'Other' Compressed Biscuit
<b>% (n)</b>	<b>30 (13)</b>	<b>70 (30)</b>
<b>Energy (kcal)</b> Average* (Min–Max)	135 (134–163)	152 (113–235)
<b>Total fat (g)</b> Average* (Min–Max)	1 (1–1)	2 (1–10)
<b>Saturated fat (g)</b> Average* (Min–Max)	0 (0–0)	0 (0–2)
<b>Sugar (g)</b> Average* (Min–Max)	2 (0–2)	8 (1–12)
<b>Fibre (g)</b> Average* (Min–Max)	4 (4–5)	3 (1–5)
<b>Nutrition claims</b> % (n)	92 (12)	93 (28)
<b>Health claims</b> % (n)	31 (4)	40 (12)
<b>Nutrition and health claims</b> % (n)	92 (12)	90 (27)

\*Average = median value

### 3.3.3 Comparison of 'Healthier Choice' Flake/Puffed versus 'Other' Flake/Puffed cereals

- For Flake/Puffed-type cereals, only 6% were considered to be 'Healthier Choice' (Table 4).
- Only one-fifth (20%) of Flake/Puffed cereals were a source of fibre (providing 3 g of fibre per recommended serving size), making these types of cereals lowest in fibre overall (see Figure 5).
- Some of the 'Other' Flake/Puffed-type cereals (i.e. those that did not meet the 'Healthier Choice' criteria) were very high in sugar, with some products containing up to 17 g of sugar per recommended serving size (approximately four teaspoons). These types tended to be chocolate- or honey-coated cereals, or those with dried fruit added.
- Others in the Flake/Puffed-type cereals category that did not meet the 'Healthier Choice' criteria were high in fat and saturated fat. Some of these products contained up to 12 g of fat (more than one single portion of spreadable fat such as butter) and 7 g of saturated fat (more than one-third of the recommended daily limit of saturated fat as part of a 2,000-calorie-a-day diet). While some allowance can be made for added nuts to 'Healthier Choice' cereals, those with additional oils and fats are not recommended as part of healthy eating.
- Despite 'Healthier Choice' compared with 'Other' Flake/Puffed cereals being very different in terms of nutritional quality for healthy eating, there were no statistically significant differences in terms of the proportion of each type of product bearing nutrition and health claims on labels.

**Table 4** Comparison of 'Healthier Choice' Flake/Puffed cereals versus 'Other' Flake/Puffed cereals per serving size recommended by the manufacturer



	'Healthier Choice' Flake/Puffed	'Other' Flake/Puffed
<b>% (n)</b>	<b>6 (8)</b>	<b>94 (126)</b>
<b>Energy (kcal)</b> Average* (Min–Max)	107 (84–120)	115 (70–257)
<b>Total fat (g)</b> Average* (Min–Max)	1 (0–2)	1 (0–12)
<b>Saturated fat (g)</b> Average* (Min–Max)	0 (0–0)	0 (0–7)
<b>Sugar (g)</b> Average* (Min–Max)	4 (1–5)	6 (0–17)
<b>Fibre (g)</b> Average* (Min–Max)	4 (3–5)	2 (0–10)
<b>Nutrition claims</b> % (n)	50 (4)	76 (96)
<b>Health claims</b> % (n)	0 (0)	19 (24)
<b>Nutrition and health claims</b> % (n)	50 (4)	72 (91)

\*Average = median value

### 3.3.4 Comparison of 'Healthier Choice' Muesli versus 'Other' Muesli cereals

- Only 7% of all Muesli cereals sampled were considered 'Healthier Choice' (Table 5), which indicates that the majority of Muesli-type cereals available on the Irish market were not considered a 'Healthier Choice'.
- For those varieties not considered a 'Healthier Choice', some cereals contained nearly four teaspoons of sugar (15 g), some of which may be due to the addition of dried fruit.
- Others in the Muesli category not considered to be a 'Healthier Choice' contained up to 14 g of fat (equivalent to almost 1.5 single portions of spreadable fat such as butter). However, these tended to contain a high proportion of seeds, and therefore saturated fat levels were not very high. While fats from added nuts to 'Healthier Choice' cereals are not a problem, cereals containing additional oils and fats per se are not recommended as part of healthy eating, due to the high calorific content.
- Despite 'Healthier Choice' compared with 'Other' Muesli cereals being very different in terms of nutritional quality for healthy eating, there were no statistically significant differences in nutrition and health claims on labels.

**Table 5 Comparison of 'Healthier Choice' Muesli versus 'Other' Muesli cereals per serving size recommended by the manufacturer**



	'Healthier Choice' Muesli	'Other' Muesli
<b>% (n)</b>	<b>7 (4)</b>	<b>93 (54)</b>
<b>Energy (kcal)</b> Average* (Min–Max)	156 (120–174)	171 (101–242)
<b>Total fat (g)</b> Average* (Min–Max)	2 (1–2)	4 (1–14)
<b>Saturated fat (g)</b> Average* (Min–Max)	0 (0–0)	1 (0–3)
<b>Sugar (g)</b> Average* (Min–Max)	2 (0–4)	9 (3–15)
<b>Fibre (g)</b> Average* (Min–Max)	4 (3–5)	4 (1–6)
<b>Nutrition claims</b> % (n)	75 (3)	70 (38)
<b>Health claims</b> % (n)	25 (1)	32 (17)
<b>Nutrition and health claims</b> % (n)	75 (3)	70 (38)

\*Average = median value

### 3.3.5 Comparison of 'Healthier Choice' Granola versus 'Other' Granola cereals

- None of the Granola cereals on the market met the 'Healthier Choice' criteria (Table 6).
- Some of the Granola varieties contained very high amounts of sugar, with some single-serving sizes providing up to 19 g of sugar (just under five teaspoons).
- Other Granola varieties contained very high amounts of fat and saturated fat. Some single-serving sizes provided up to 19 g of fat (equivalent to almost two single portions of spreadable fat such as butter) and up to 8 g of saturated fat (more than one-third of the recommended daily limit of 20 g of saturated fat as part of a 2,000-calorie-a-day diet). The fat content was due to oil used in the manufacture of Granola, as well as added nuts and seeds.
- Despite none of the Granola cereals on the market in Ireland meeting the 'Healthier Choice' criteria, the majority (69%) bore nutrition and health claims on the labels.
- With regard to calories, fat, sugar and fibre content in a 45 g average serving size, Granola was found to be comparable to three digestive-type biscuits (also 45 g), with only saturated fat content being significantly lower (see Figure 7).

**Table 6** Investigation of Granola cereals per serving size recommended by the manufacturer



	'Healthier Choice' Granola	'Other' Granola
<b>% (n)</b>	<b>0 (0)</b>	<b>100 (68)</b>
<b>Energy (kcal)</b> Average* (Min–Max)	–	200 (127–251)
<b>Total fat (g)</b> Average* (Min–Max)	–	8 (3–19)
<b>Saturated fat (g)</b> Average* (Min–Max)	–	2 (0–8)
<b>Sugar (g)</b> Average* (Min–Max)	–	8 (2–19)
<b>Fibre (g)</b> Average* (Min–Max)	–	3 (1–7)
<b>Nutrition claims</b> % (n)	–	75 (51)
<b>Health claims</b> % (n)	–	32 (22)
<b>Nutrition and health claims</b> % (n)	–	69 (47)

\*Average = median value



**Granola**  
**Nutrition information**

TYPICAL VALUES	PER SERVING (45G)
<b>Energy</b>	<b>200 kcal</b>
<b>Fat</b>	<b>8 g</b>
of which saturates	2 g
<b>Sugar</b>	<b>8 g</b>
<b>Fibre</b>	<b>3 g</b>

**Digestive-type biscuit\***  
**Nutrition information**

TYPICAL VALUES	THREE BISCUITS (45G)
<b>Energy</b>	<b>208 kcal</b>
<b>Fat</b>	<b>9 g</b>
of which saturates	4 g
<b>Sugar</b>	<b>8 g</b>
<b>Fibre</b>	<b>4 g</b>

\*Values used from Finglas PM et al. (2015) *McCance and Widdowson's The Composition of Foods*.<sup>11</sup>

**Figure 7 Is it a breakfast cereal or a crumbled biscuit?**  
Comparison of average Granola versus a digestive-type biscuit

### 3.4 HOW NUTRITION LABELLING CAN HELP IDENTIFY 'HEALTHIER CHOICE' BREAKFAST CEREALS

#### 3.4.1 Nutritional characteristics of a 'Healthier Choice' breakfast cereal

High-fibre, low-fat, low-sugar breakfast cereals are recommended as part of a healthy eating pattern.<sup>12–13</sup> This study found a wide variety of breakfast cereals on the market in Ireland, many of which bear nutrition and health claims. The purpose of mandatory nutrition labelling, introduced through EU food law in December 2016 for all pre-packaged foods in the EU, is to provide reliable information that can be used as criteria to help consumers assess the fat, sugar and salt content of foods, and enable identification of healthier food choices. This study identified five nutrients listed on nutrition labels that can be used by consumers to identify 'Healthier Choice' breakfast cereals. These are listed below along with the reasons for selection and cut-off levels that consumers should look out for.

*High in fibre (provide at least 3 g per recommended serving size)* – because a high-fibre diet is essential for people in Ireland, in order to reduce their risk of gastrointestinal disease, including colon cancer.<sup>14</sup> Colorectal cancer is the second most common form of cancer in Ireland, accounting for 11% of all cancers in women and 14% of all cancers in men in 2007–2009; it is the third leading cause of cancer death in women and the second leading cause of such death in men.<sup>15</sup> Breakfast cereals can make a significant contribution to fibre intakes, which is a priority for healthy eating for the Irish population.

*Low in fat (3 g or less per recommended serving size)* – because fat (or oil) makes food rich in calories, which increases risk of obesity.<sup>16</sup> In Ireland, the majority of adults (60%) are overweight or obese, less than 1% are underweight and about one-third are a healthy weight.<sup>1</sup> Reducing total fat intake is critical for the Irish population, in order to reduce their risk of obesity and associated health problems. Breakfast cereals are recommended as part of the Wholemeal Cereals, and Breads, Potatoes, Pasta and Rice Food Group, which contribute fibre-rich carbohydrates to a healthy eating food pattern. Any food in this Food Group, including breakfast cereals, should only contribute minimal amounts of fat/oils. With very few exceptions, 'Healthier Choice' products should be 'low fat' – for example, cereals with added nuts and seeds will contain more fat/oil (see Figure 8).

*Low in saturated fat (1.5 g or less per recommended serving size)* – because saturated fat raises blood cholesterol, which increases risk of cardiovascular disease. Reducing saturated fat intake is an essential part of healthy eating in Ireland, in order to reduce risk of cardiovascular disease, which is the leading cause of mortality (accounting for 31% of all deaths) in Ireland.<sup>17</sup> Breakfast cereals, like any other food in the Wholemeal Cereals and Breads, Potatoes, Pasta and Rice Food Group, should contribute minimal amounts of fat/oils and very little saturated fat. With very few exceptions, 'Healthier Choice' products should be 'low saturated fat' – for example, cereals with added nuts and seeds will increase saturated fat content but, overall, breakfast cereals should contain less than 3 g of saturated fat per bowl (see Figure 8).

*Low in sugar (6 g or less per recommended serving size)* – because sugar intakes need to be limited, as high intakes impact negatively on diet quality and increase the risk of obesity and associated health problems.<sup>18</sup> A 2015 report published by the World Health Organization (WHO) strongly recommended a reduction in sugar intakes throughout the life course.<sup>19</sup> The cut-off for sugar used in this study for 'Healthier Choice' breakfast cereals (6 g of sugar or less per serving, which equates to 1.5 teaspoons) reflects a healthy approach to sugar, where a little can be used to make low-fat, high-fibre breakfast cereals more palatable. The only exceptions to the 6 g limit are cereals that contain a lot of dried fruit (see Figure 9).

*Low in salt (0.3 g or less per recommended serving size)* – because salt contributes to high blood pressure and cardiovascular disease.<sup>20</sup> Since 2003, the FSAI has been working with the food industry in Ireland to achieve gradual, sustained and universal reductions in the salt content of processed and prepared foods. During this study on breakfast cereals in Ireland, data on the salt content of each breakfast cereal was collected. On the basis of a single serving (according to manufacturer's recommendations), all of the 'Healthier Choice' breakfast cereals on the market were

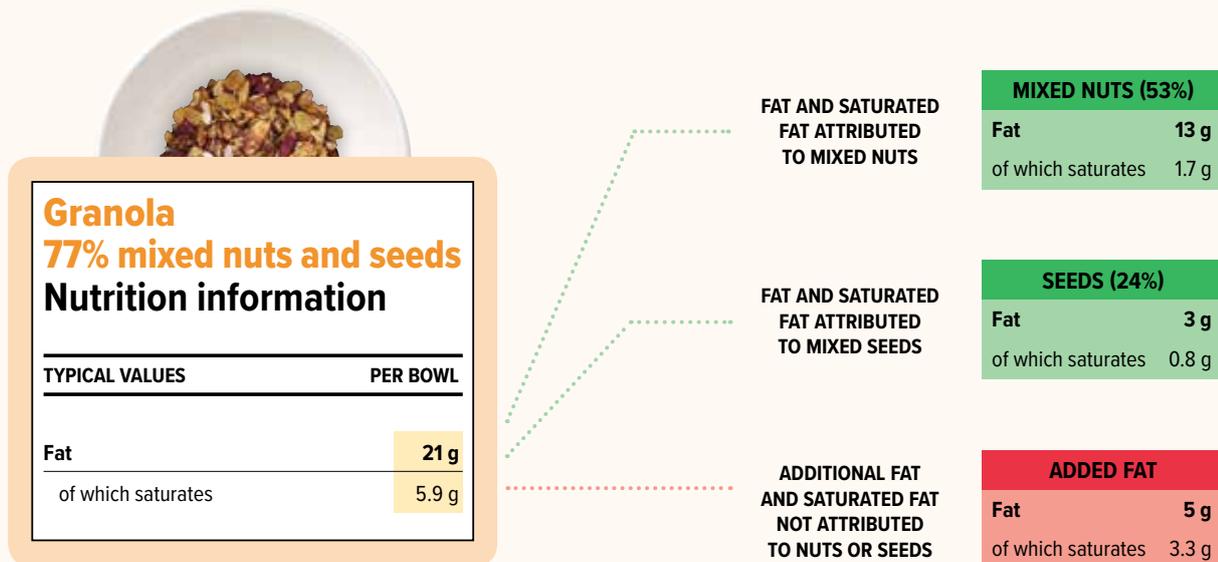
'low in salt', in that they provided less than or equal to 0.3 g of salt per bowl<sup>c</sup>. In fact, only one breakfast cereal on the market in Ireland had salt levels above the 'low salt' cut-off of 0.3 g of salt per single serving size. Due to all breakfast cereals meeting the 'low salt' cut-off, this was not included in the 'Healthier Choice' criteria.

### **3.4.2 How nuts, seeds and dried fruit impact on 'Healthier Choice' criteria**

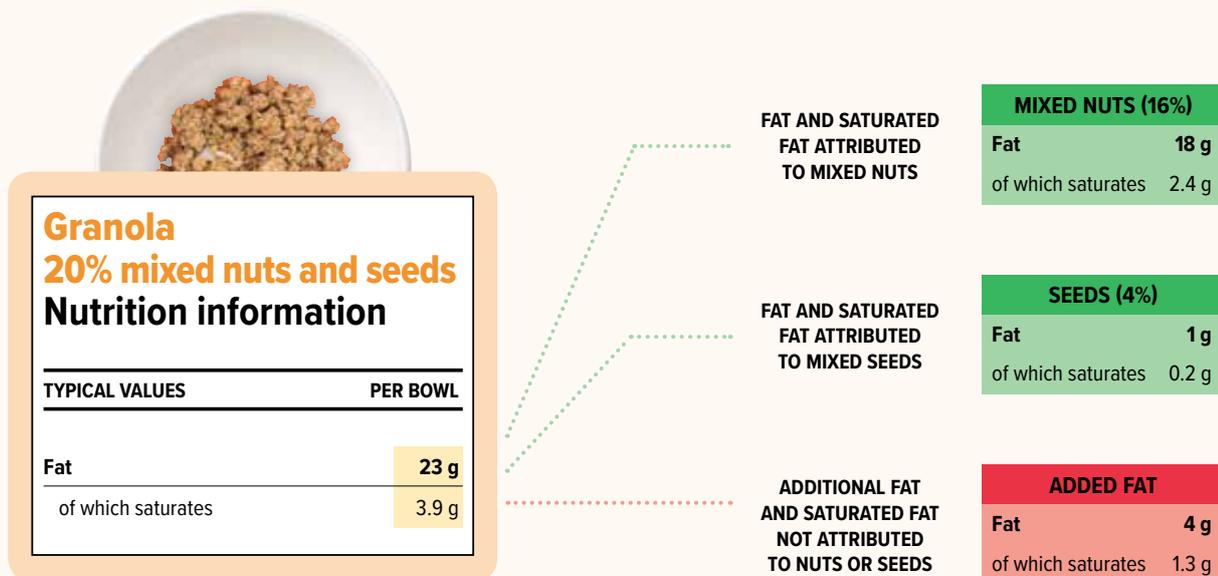
The contribution of nuts and seeds to the fat and saturated fat in a single bowl of breakfast cereal is outlined in Figure 8 (see also Appendix 1). In Figure 8, two bowls of Granola reflecting the range in nut and seed content in these cereals on the market in Ireland are shown – one with a high nut and seed content (77%) and the other with a low nut and seed content (20%). Nuts and seeds are high in fat but low in saturated fat, and are a healthy addition to breakfast cereals. Therefore, breakfast cereals that are high in nuts and seeds can be expected to have a higher total fat content than the 3 g or less recommended in this study. The addition of nuts and seeds will also affect the saturated fat content. Despite exceeding the 1.5 g cut-off for saturated fat developed by this study, a bowl of 'Healthier Choice' breakfast cereal with a high quantity of nuts and seeds should, nonetheless, not contain more than 3 g of saturated fat. In fact, the lower the saturated fat content, the better. It should be noted that the majority of Granola-type cereals on the market in Ireland contain additional fat/oil to that provided by nuts and seeds, and this can be high in saturated fat, which consumers need to be aware of.

The contribution of dried fruit to the amount of sugar in a single bowl of breakfast cereal is outlined in Figure 9 (see also Appendix 2). In Figure 9, two bowls of Compressed Biscuit breakfast cereal are shown – again reflecting different products on the market in Ireland, where one has a high dried fruit content (40%) and the other a low dried fruit content (10%). While dried fruit contains fibre, it is also high in sugar – therefore, high dried fruit content translates into high breakfast cereal sugar content. The sweetness that dried fruit contributes to breakfast cereal products should enable manufacturers to achieve a palatable product with less added sugar.

<sup>c</sup> Note: the authorised 'low salt' nutrition claim on food is based on 100 g, and 73% of 'Healthier Choice' breakfast cereals met this requirement (0.3 g salt per 100 g cereal).



High nuts and seeds content

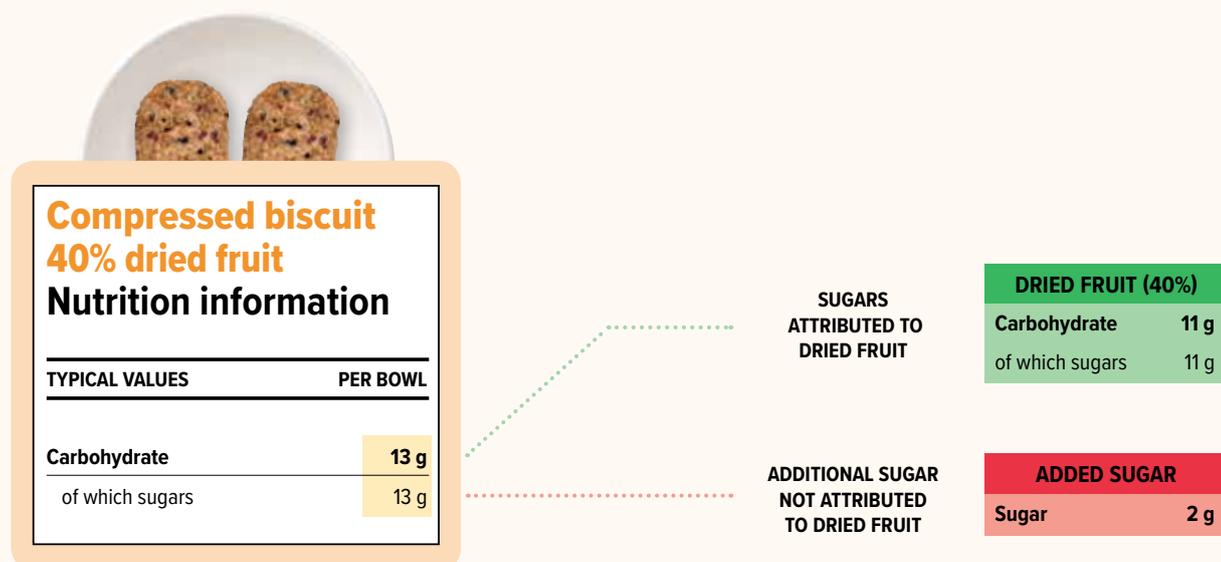


Lower nuts and seeds content

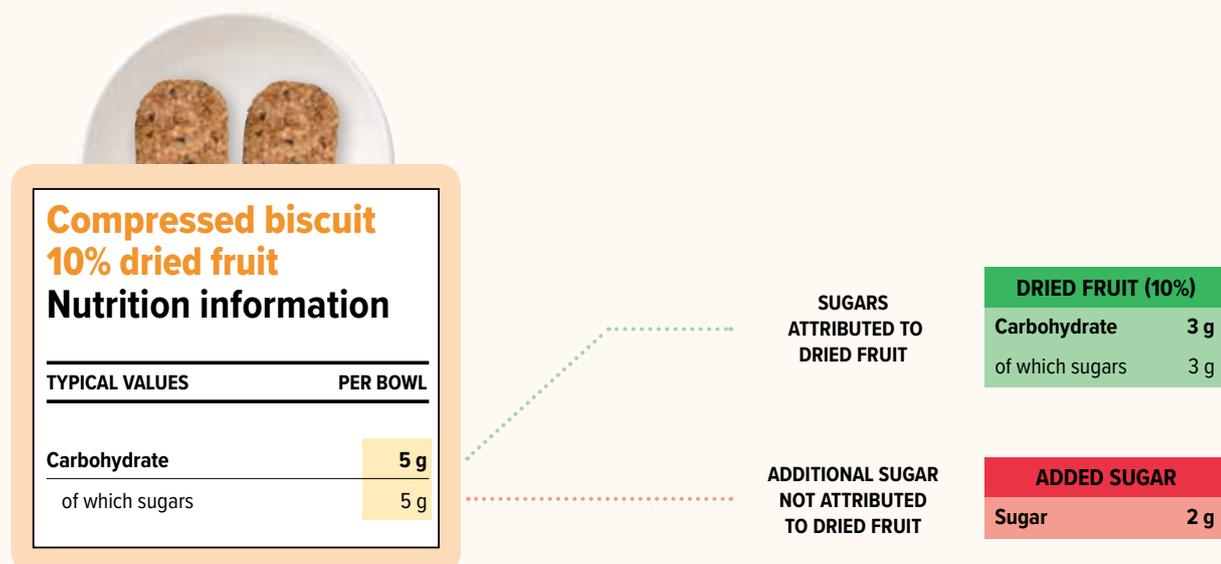
- Nuts and seeds are high in fat, but low in saturated fat, and are a healthy addition.
- Manufacturing Granola requires the use of additional fat and oil.
- A bowl of breakfast cereal containing nuts and seeds should provide less than 3 g of saturated fat (the lower the better) in order to be a 'Healthier Choice'.

**Figure 8** The contribution of nuts and seeds to the fat and saturated fat in a single bowl of Granola (as per manufacturers recommended portion size).

<sup>d</sup> These products were taken as examples of what is currently available on the market in Ireland.



High dried fruit content



Lower dried fruit content

- Dried fruit contains fibre, but is also high in natural sugar.
- High amounts of dried fruit will increase sugar content.
- A single serving of breakfast cereal providing ≤6 g of sugar is a healthier option.

**Figure 9** The contribution of dried fruit to the amount of sugar in a single bowl of Compressed Biscuit breakfast cereal (as per manufacturers recommended portion size).

### 3.4.3 The practical use of nutrition labelling to identify 'Healthier Choice' breakfast cereals

This study assessed the presence of nutrition and health claims on breakfast cereals. Many, but not all, of the breakfast cereals studied carried nutrition and health claims, but this information did not differentiate between 'Healthier Choice' and 'Other' breakfast cereals. This is due to the lack of criteria in EU legislation to limit fat, saturated fat and sugar in foods bearing nutrition and health claims. Although not investigated in detail, the researchers noted a plethora of descriptors on breakfast cereals – such as 'organic' and 'gluten free' – which may attract health-conscious consumers. 'Paleo' was sometimes used on breakfast cereals with a very high fat content (up to 20 g per recommended serving).

In addition to mandatory nutrition labelling being outlined in relatively small font, an added complexity is that this information is given per 100 g of food products, which rarely represents a single serving size. In the case of breakfast cereals, 100 g represents between two and four servings, which makes it difficult for consumers to easily assess the nutritional content of a single serving, i.e. the amount consumed. However, in this regard the majority of breakfast cereals marketed in Ireland voluntarily provides nutrition information per recommended serving size, in addition to the mandatory per 100 g panel.

A summary of guidance towards healthier options within each cereal type is outlined below.



#### OATS

If choosing oat-type varieties, the best options are the plain varieties. Some of the plain varieties in instant pots have skimmed milk powder and whole milk powder added, which increases the fat and sugar content, but only marginally.



#### COMPRESSED BISCUIT

If choosing Compressed Biscuit-type varieties, the best options are the plain varieties, i.e. varieties that do not contain added fruit, honey or chocolate.



#### FLAKE/ PUFFED

If choosing a Flake/Puffed type of breakfast cereal, plain varieties that are a source of fibre are the best options, i.e. those that contain 3 g or more of fibre per single serving size recommended by the manufacturer.



#### MUESLI

If choosing a Muesli variety of cereal that contains nuts and seeds, the fat content may be higher than the 'Healthier Choice' criteria; nonetheless, products with a saturated fat content of 3 g or less are the best option.



#### GRANOLA

If choosing a Granola variety of cereal product, those with a saturated fat content of 3 g or less are the best, but nonetheless should be regarded as being much like a high-fibre biscuit.

## 4. Identifying ‘Healthier Choice’ yogurts in Ireland

### 4.1 HOW ‘HEALTHIER CHOICE’ YOGURTS WERE IDENTIFIED

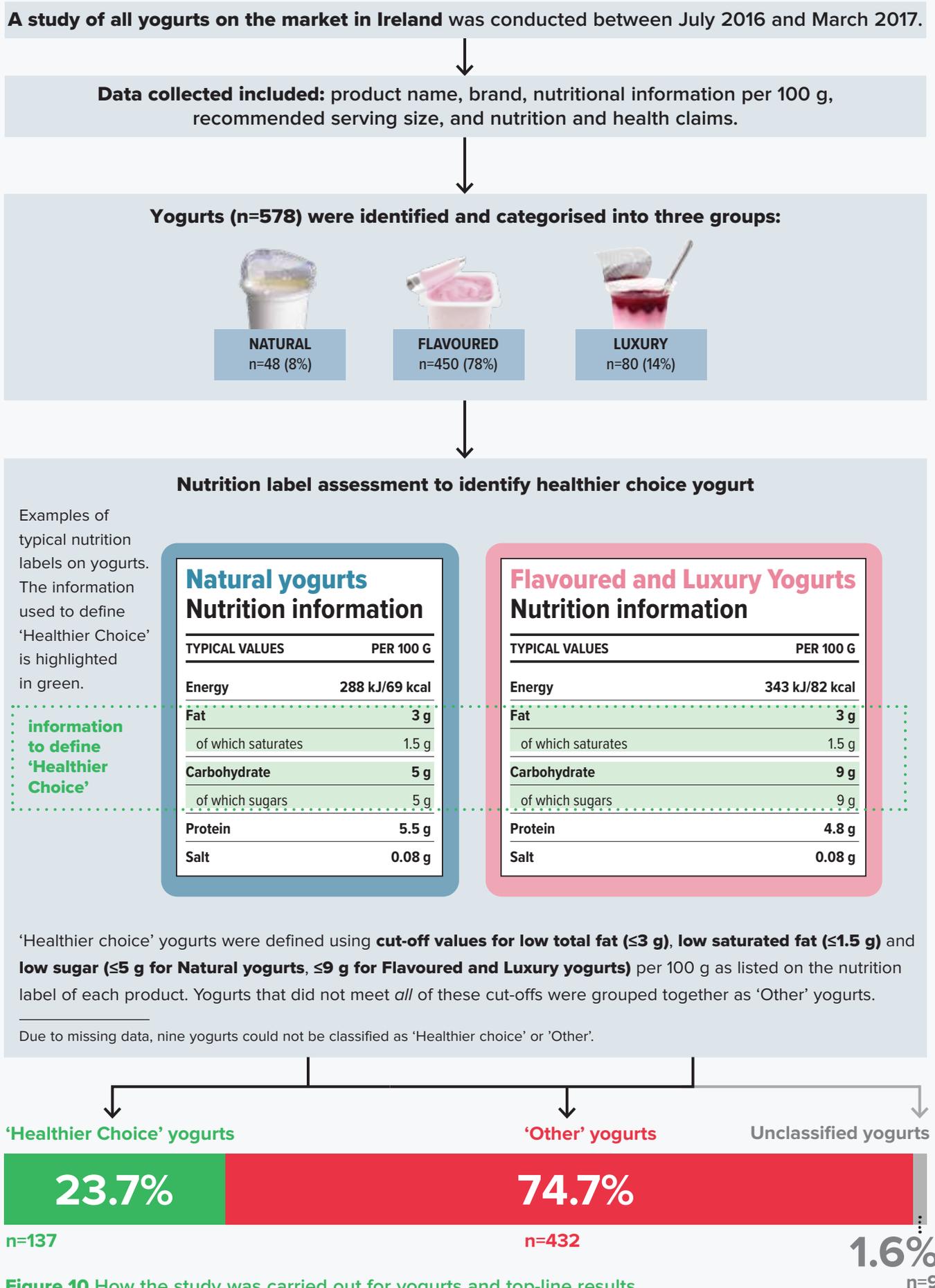
A study of yogurts on the market in Ireland was completed between July 2016 and March 2017, as described in Chapter 2 (see also Figure 10).<sup>9</sup> Data collected from product labels included: brand name, product name, nutritional information (calories, total fat, saturated fat and sugar), manufacturer’s recommended serving size, and nutrition and health claims. Yogurts were categorised into three groups based on their name, ingredients and appearance, namely: Natural, Flavoured and Luxury.

Nutrition information on product labels was used to characterise ‘Healthier Choice’ products using cut-offs to describe products that are low in fat, low in saturated fat and low in sugar. These nutrient cut-offs were developed by testing them on all yogurts identified on the market per 100 g serving of the product (100 g was deemed appropriate, as 125 g is the average serving size of yogurt sold). The nutrient cut-offs that resulted in a reasonable number of products meeting the ‘Healthier Choice’ criteria were eventually chosen to identify yogurts that were low in fat, low in saturated fat and low in sugar. These cut-offs mirror the criteria used for making nutrition claims on foods, with the exception of sugar in the Flavoured and Luxury yogurt categories. All yogurts contain the natural milk sugar, lactose. However, additional sugar is often added to give Flavoured and Luxury yogurt products a sweeter taste. Therefore, while the cut-off for making low sugar nutrition claims was used for Natural yogurts, this was modified for Flavoured and Luxury yogurts to add one teaspoon of sugar (4 g) per 100 g to account for sugar added for flavouring purposes.

In summary, ‘Healthier Choice’ yogurts were defined as those where 100 g contained 3 g or less fat, 1.5 g or less saturated fat and, for Natural yogurts, 5 g or less sugar. By contrast, the sugar cut-off for Flavoured and Luxury yogurts was 9 g or less (see Table 7). ‘Other’ yogurts were defined as those not meeting one or more of the cut-offs for ‘Healthier Choice’ yogurts.

**Table 7** Cut-offs used to describe characteristics of ‘Healthier Choice’ yogurts

Characteristics of a ‘Healthier Choice’ yogurt	Cut-off
<b>Low in total fat</b>	≤3 g
<b>Low in saturated fat</b>	≤1.5 g
<b>Low in sugar</b>	≤5 g (for Natural yogurts) ≤9 g (for Flavoured and Luxury yogurts)



**Figure 10** How the study was carried out for yogurts and top-line results

## 4.2 OVERVIEW OF YOGURTS AVAILABLE IN IRELAND

A wide variety of yogurts (n=578) were found on the Irish market. While many different types of products were identified, three categories could describe the range available on the market: Natural, Flavoured and Luxury. More than three-quarters of the yogurts found on the Irish market were Flavoured (n=450), followed by Luxury (n=80; 14%) and Natural (n=48; 8%). The average portion size for each yogurt category was 125 g for Natural and Flavoured yogurts, and 150 g for Luxury yogurts. Following application of the nutrient cut-off criteria to all 578 yogurts, this resulted in 24% (n=137) being identified as a 'Healthier Choice' and 76% (n=432) being categorised as 'Other' (see Figure 10).

The average nutrient content of all yogurts on the market, and per yogurt category, is shown in Figure 11. This shows that the average sugar content of all the yogurts on the market in Ireland, considered as a total group, is more than double the cut-off used to describe 'low sugar'; while average fat and saturated fat contents are below, or close to, the cut-off descriptors for 'low fat' and 'low saturated fat' (see Figure 11).

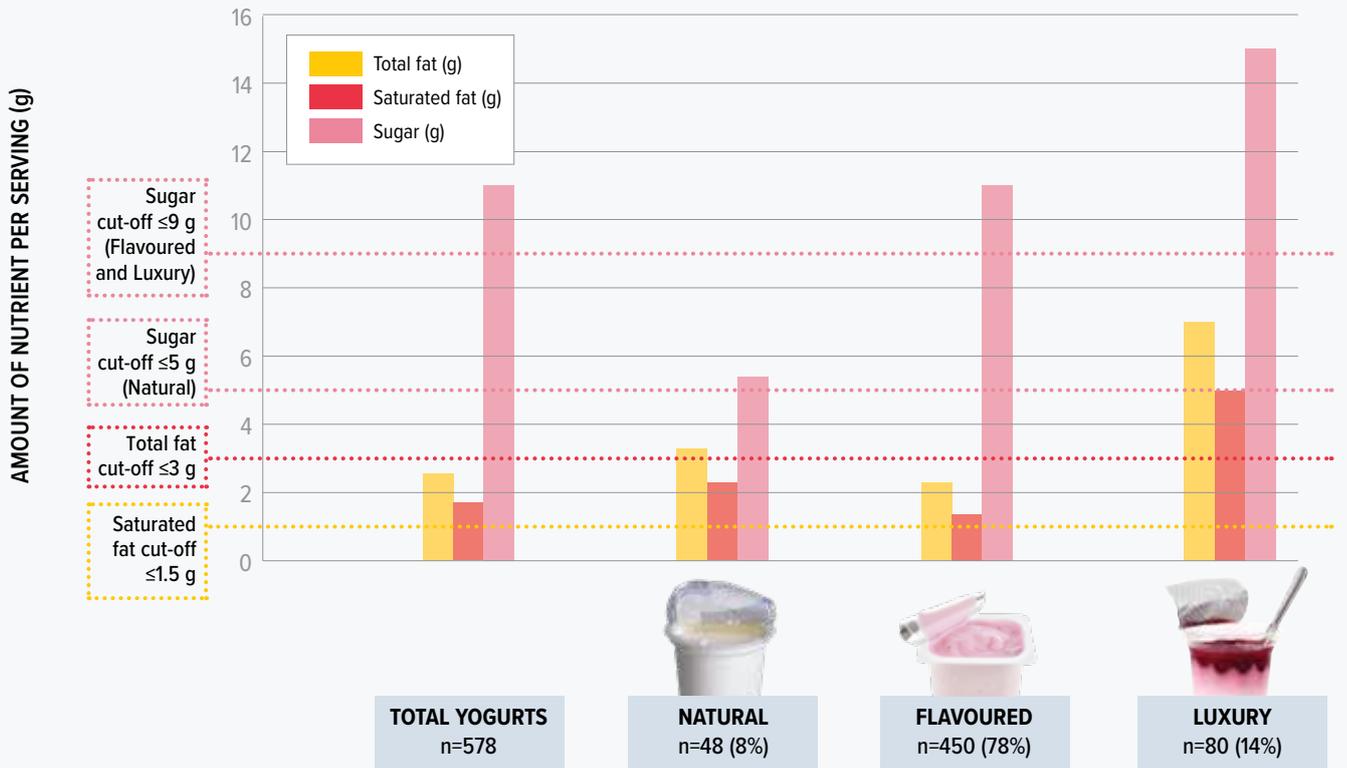
In terms of different categories of yogurts, Luxury yogurts generally contained the highest amount of total fat (15 g), saturated fat (5 g) and sugar (15 g) per 100 g. Natural yogurts on average contained the lowest amount of sugar (5.4 g per 100 g), while Flavoured yogurts contained the lowest amounts of fat (2.3 g per 100 g) and saturated fat (1.4 g per 100 g).

The proportions of yogurt categories meeting each of the nutrient cut-offs shown in Figure 12 highlight which nutrients were most challenging in terms of meeting the 'Healthier Choice' criteria. Across all yogurt categories, the low sugar target was the hardest to meet, with only one-third of all yogurts meeting the limits of either 5 g or 9 g of sugar. None of the products in the Luxury yogurt category met the sugar cut-off, and less than 10% met the cut-offs for low fat or low saturated fat. Overall, the cut-off for 'low saturated fat' was the second most difficult criterion for 'Healthier Choice' yogurt products to meet.

Overall:

- A wide range of different types of products was identified within the three yogurt categories on the market in Ireland.
- The approaches used to identify 'Healthier Choice' yogurts in this study were feasible – at least for total fat and saturated fat, where average (median) quantities were well below the cut-off criteria used to identify 'Healthier Choice' products.
- The three categories established for yogurt products in this study were appropriate, as clear nutritional distinctions were evident between the three groups of yogurt products in terms of fat, saturated fat and sugar.
- Overall, this study found that less than one-quarter of yogurt products available represent the low in fat, saturated fat and sugar-type product advised in the *Healthy eating, food safety and food legislation: A guide to supporting the Healthy Ireland Food Pyramid*.<sup>3</sup> This indicates a challenging food environment within which consumers can access 'Healthier Choice' products.

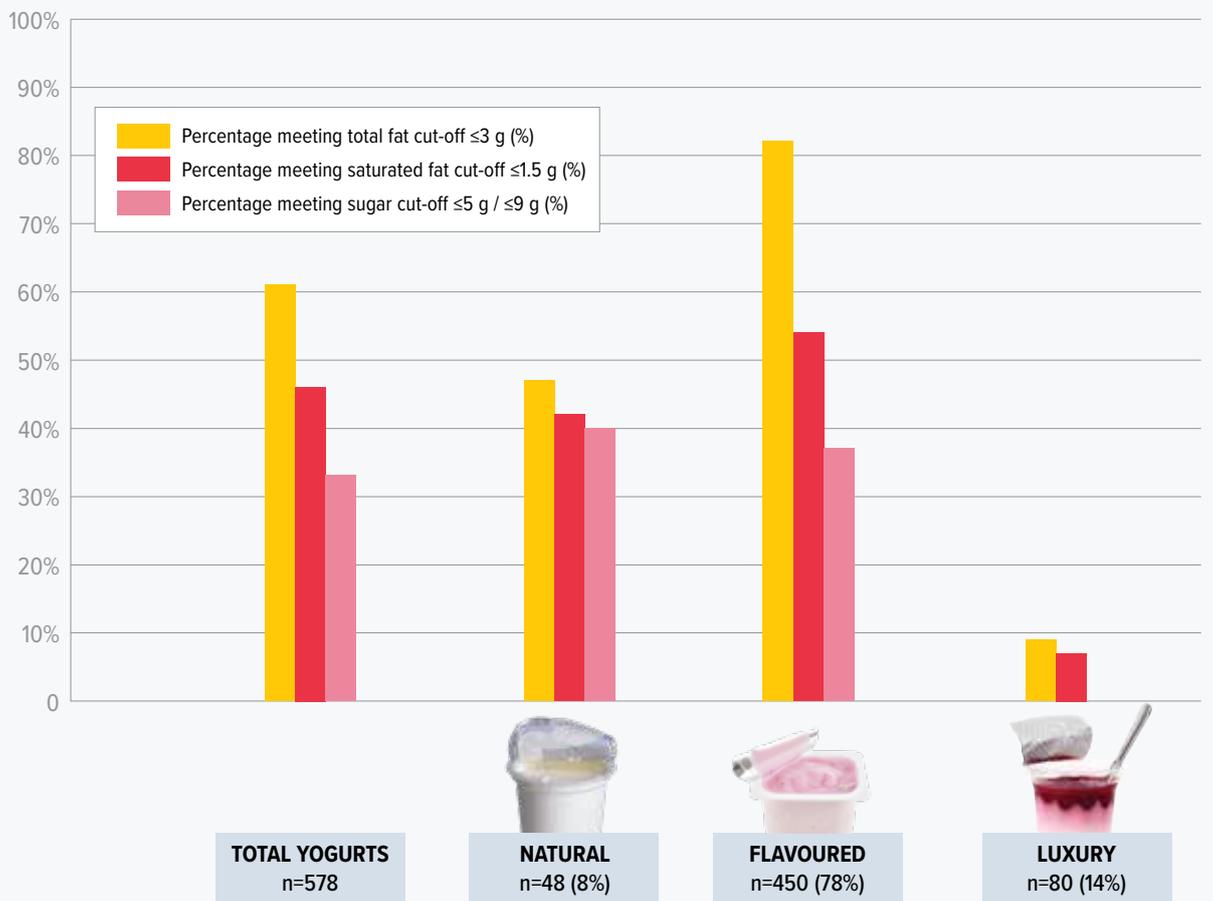
These issues are further explored within the three categories of yogurts individually in Section 4.3.



**Figure 11** Average\* nutrient content (per 100g) of all yogurts on the Irish market, and of each category

The cut-offs (total fat, saturated fat and sugar) used to describe ‘Healthier Choice’ yogurt are also displayed in the graph.

\*Average refers to median value.



**Figure 12** Percentage of yogurts meeting each of the nutrient cut-offs for ‘Healthier Choice’ per 100 g

### 4.3 COMPARISON OF 'HEALTHIER CHOICE' AND 'OTHER' YOGURTS

#### 4.3.1 Comparison of 'Healthier Choice' versus 'Other' Natural yogurts

- Less than one-fifth (n=8; 17%) of Natural yogurts were identified as 'Healthier Choice' products (see Table 8).
- Some of the Natural yogurts products that did not meet the 'Healthier Choice' criteria and were classed as 'Other' were high in fat (up to 10 g, which is equivalent to a single portion of spreadable fat) and saturated fat (up to 6 g, which is almost one-third of the recommended daily limit of 20 g of saturated fat as part of a 2,000-calorie-a-day diet). The products contained added cream and were mainly described as 'Greek style'.
- In terms of nutrition claims, all 'Healthier Choice' Natural yogurts carried nutrition claims, while almost three-quarters of 'Other' Natural yogurts carried nutrition claims. With regard to health claims, the study found the reverse of what consumers might otherwise expect. For example, none of the products considered to be a 'Healthier Choice' in this study bore health claims on the labels; by contrast, 15% of the 'Other' Natural yogurts bore such claims (see Table 8).

**Table 8** Comparison of 'Healthier Choice' Natural yogurts versus 'Other' Natural yogurts per 100 g



	'Healthier Choice' Natural	'Other' Natural
<b>% (n)</b>	<b>17 (8)</b>	<b>83 (39)</b>
<b>Energy (kcal)</b> Average* (Min–Max)	57 (46–75)	70 (46–131)
<b>Total fat (g)</b> Average* (Min–Max)	0 (0–2)	3 (0–10)
<b>Saturated fat (g)</b> Average* (Min–Max)	0 (0–1)	2 (0–6)
<b>Sugar (g)</b> Average* (Min–Max)	4 (4–5)	6 (3–9)
<b>Nutrition claims</b> % (n)	100 (8)	74 (29)
<b>Health claims</b> % (n)	0 (0)	15 (6)
<b>Both nutrition and health claims</b> % (n)	0 (0)	13 (5)

\*Average = median value

#### 4.3.2 Comparison of 'Healthier Choice' versus 'Other' Flavoured yogurts

- Almost one-third (29%) of Flavoured yogurts on the market met the 'Healthier Choice' criteria (see Table 9).
- A few Flavoured yogurt products not meeting the 'Healthier Choice' criteria (described as 'Other') were extremely high in fat and saturated fat. In fact, these yogurt products were labelled as containing up to 25 g of fat per 100 g, and the majority of this fat was saturated (up to 22 g per 100 g, which is 10% higher than the recommended daily upper limit of consumption of saturated fat for adults). At these fat levels, such products provide more fat and almost twice the amount of saturated fat than 100 mL of single cream. These very high-fat products were 'dairy free' yogurts and were based on coconut products.
- Very high quantities of sugar were also found in some of the 'Other' Flavoured yogurts – as much as 19 g of sugar (approximately five teaspoons) per 100 g. These yogurts tended to be chocolate-flavoured products.
- Despite 'Healthier Choice' compared with 'Other' Flavoured yogurts being very different in terms of nutritional quality for healthy eating, there were some differences in terms of labels bearing nutrition and health claims (see Table 9).

**Table 9** Comparison of 'Healthier Choice' Flavoured yogurts versus 'Other' Flavoured yogurts per 100 g



	'Healthier Choice' Flavoured	'Other' Flavoured
<b>% (n)</b>	<b>29 (129)</b>	<b>71 (313)</b>
<b>Energy (kcal)</b> Average* (Min–Max)	54 (43–104)	96 (49–245)
<b>Total fat (g)</b> Average* (Min–Max)	0.2 (0–3)	3 (0–25)
<b>Saturated fat (g)</b> Average* (Min–Max)	0.1 (0–2)	2 (0–22)
<b>Sugar (g)</b> Average* (Min–Max)	7 (0–9)	12 (0–19)
<b>Nutrition claims</b> % (n)	95 (123)	69 (217)
<b>Health claims</b> % (n)	12 (16)	15 (47)
<b>Nutrition and health claims</b> % (n)	12 (16)	11 (34)

\*Average = median value

#### 4.3.3 Investigation of Luxury yogurts

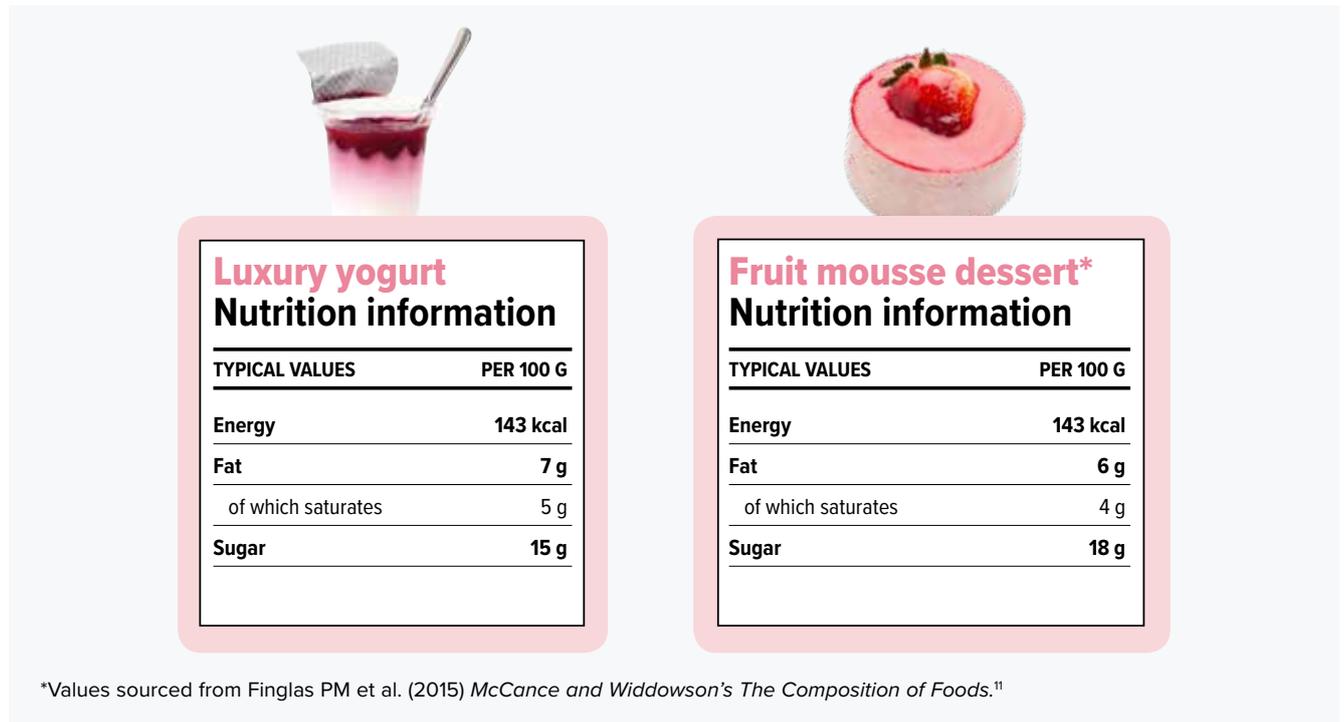
- None of the Luxury yogurts met the 'Healthier Choice' criteria (Table 10).
- There were no nutrition or health claims on the labels of any of these Luxury yogurt products.
- With regard to calories, fat, saturated fat and sugar content per 100 g of product, Luxury yogurts were comparable to a dessert such as fruit mousse (see Figure 13).

**Table 10** Investigation of Luxury yogurts per 100 g



	'Healthier Choice' Luxury	'Other' Luxury
<b>% (n)</b>	<b>0 (0)</b>	<b>100 (80)</b>
<b>Energy (kcal)</b> Average* (Min–Max)	–	143 (88–209)
<b>Total fat (g)</b> Average* (Min–Max)	–	7 (1–12)
<b>Saturated fat (g)</b> Average* (Min–Max)	–	5 (1–9)
<b>Sugar (g)</b> Average* (Min–Max)	–	15 (9–23)
<b>Nutrition claims</b> % (n)	–	9 (7)
<b>Health claims</b> % (n)	–	4 (3)
<b>Nutrition and health claims</b> % (n)	–	0 (0)

\*Average = median value



**Figure 13 Is it a yogurt or a dessert?**

Comparison of a Luxury yogurt versus a fruit mousse dessert per 100 g

## 4.4 HOW NUTRITION LABELLING CAN HELP IDENTIFY 'HEALTHIER CHOICE' YOGURTS

### 4.4.1 Nutritional characteristics of a 'Healthier Choice' yogurt

Yogurts which are low in fat, saturated fat and sugar are recommended as part of a healthy eating pattern.<sup>2, 12, 13</sup> This study identified a wide variety of yogurts on the market in Ireland, many of which bear nutrition and health claims. Without criteria to describe yogurts that are low in fat, and low in saturated fat, it can be difficult for consumers to identify options that are a 'Healthier Choice'. This study identified three nutrients listed on mandatory nutrition labels that can be used to identify 'Healthier Choice' yogurts. These characteristics are set out below.

When choosing a yogurt, it is important to choose one that is:

- Low in **fat**
- Low in **saturated fat**
- Low in **sugar**.

**Low in fat** (3 g or less per recommended serving size) – because fat makes food rich in calories, which increases risk of obesity.<sup>16</sup> In Ireland, the majority of adults (60%) are overweight or obese, less than 1% are underweight and only about one-third are a healthy weight. Reducing total fat intake is critical for the Irish population, in order to reduce their risk of obesity and associated health problems. Low-fat yogurts are recommended as part of the Milk, Yogurt and Cheese Food Group, which provides calcium among many other nutrients, and this is needed for healthy bones and teeth.

**Low in saturated fat** (1.5 g or less per recommended serving size) – because saturated fat raises blood cholesterol, which increases risk of cardiovascular disease. Reducing saturated fat intake is an essential part of healthy eating in Ireland, in order to reduce risk of cardiovascular disease, which is the leading cause of mortality (accounting for 31% of all deaths) in Ireland.<sup>17</sup> Yogurts, like any other food in the Milk, Yogurt and Cheese Food Group, should contribute minimal amounts of fat and very little saturated fat.

Low in **sugar** (5 g or less for Natural yogurts and 9 g or less for Flavoured yogurts per recommended serving size) – because sugar intakes need to be limited, as high intakes impact negatively on diet quality and increase the risk of obesity and associated chronic diseases, such as diabetes and cancer.<sup>18</sup> A 2015 report published by the WHO strongly recommended a reduction in sugar intakes throughout the life course.<sup>19</sup> All yogurts have natural sugar present in the form of lactose, and in order to take this into account, a cut-off of 5 g or less was chosen for Natural yogurts. Flavoured yogurts have additional sugar added, which improves the palatability of the product, and in order to allow for this, a cut-off of 9 g or less was selected for Flavoured yogurts.

#### 4.4.2 The practical use of nutrition labelling to identify ‘Healthier Choice’ yogurts

This study assessed the presence of nutrition and health claims on yogurts. Many, but not all, of the yogurts studied carried nutrition and health claims, but this information did not differentiate between ‘Healthier Choice’ and ‘Other’ yogurts. This is due to a lack of criteria in EU legislation to limit fat, saturated fat and sugar in foods bearing nutrition and health claims. Although not investigated in detail, descriptors such as ‘organic’, ‘refined sugar free’ and ‘dairy free’ were observed on a number of yogurts. It was noted that some of these products (particularly the dairy-free products) had a very high fat content, due to the presence of coconut oil (up to 25 g per 100 g of the yogurt product).

A limitation to mandatory nutrition labelling is the fact that no distinction is made between natural sugar (i.e. lactose) and sugar added by the manufacturer. Sugar content varied substantially among the yogurts studied. For Natural yogurts considered to be a ‘Healthier Choice’, sugar content varied between 4 g and 5 g per 100 g of product. Analysis of ingredient information by the study researchers found that these products have skimmed milk powder added, which increases the natural sugar (lactose) content. However, as per EU labelling legislation, sugar content is listed as total sugar, with no distinction made between natural sugar and added sugar.

The ‘Healthier Choice’ cut-offs developed in this study are based on quantities per 100 g of the product, as this is close to the recommended serving size for most yogurts. If additional voluntary nutrition labelling on the basis of a single serving is present, this information could be used to identify healthier choices. If this information is not present, nutrition information per 100 g of the product should be used. The summary of guidance towards healthier options within each yogurt type is as follows:



**NATURAL YOGURT**

When choosing Natural yogurt varieties, the ‘Healthier Choice’ criteria for Natural yogurts should be used. Be aware that no distinction is made between natural sugar (lactose) and added sugar on the nutrition label, but some Natural yogurts contain skimmed milk powder, which can increase the content of lactose (sugar). Low-fat varieties containing low fat and low saturated fat should be the main drivers of choices.



**FLAVOURED YOGURT**

When choosing Flavoured yogurt varieties, the ‘Healthier Choice’ criteria for Flavoured yogurts should be used. Be aware that yogurts labelled ‘no added sugar’, ‘dairy free’ or ‘Greek style’ can be very high in fat and saturated fat. Products with a sugar content up to 9 g per 100 g and which contain no more than 3 g of fat and 1.5 g of saturated fat per 100 g represent healthier options.



**LUXURY YOGURT**

Luxury yogurt varieties should be considered ‘desserts’, to be consumed occasionally rather than regularly as part of a healthy eating pattern.

## 5. Why this approach to assessing reformulation works

The aims of this study were to explore the range of products on the market, establish a baseline of breakfast cereals and yogurts, and possibly use this baseline in the future to verify reformulation efforts made by the food industry in Ireland.

### 5.1 EXPLORE THE RANGE OF PRODUCTS ON THE MARKET AND ESTABLISH A BASELINE FOR REFORMULATION

The food industry in Ireland has agreed to reformulate food products, in order to reduce the amount of total fat, saturated fat, sugar and salt. As outlined in a report by Dobbs et al., reformulation of products in terms of reduction in fat, sugar and salt is considered to have a high impact on obesity in a cost-effective way.<sup>21</sup> The Irish Government requested the FSAI to verify the level of reformulation activity that the food industry in Ireland is currently engaged in. This study has established a baseline of data on total fat, saturated fat, sugar and salt in all breakfast cereals and yogurts currently available on the Irish market, and it indicates that there is a wide range of products in these food categories on the Irish market. Five categories of breakfast cereals and three categories of yogurts were identified on the Irish market between July 2016 and March in 2017. However, not all products are equal in terms of their nutritional quality, i.e. calories, fat, saturated fat, sugar and fibre. This study provides a snapshot of the types of products currently available on the Irish market, and establishes a baseline for verifying progress in reformulation undertaken by the food industry in Ireland to reduce levels of fat, saturated fat, sugar and salt. Repeating this process in future years could enable assessment of the level of reduction in these nutrients among two important food categories within the Food Pyramid.

### 5.2 IT IS RECOMMENDED THAT GUIDANCE BE DEVELOPED, IN ORDER TO ENABLE CONSUMERS TO USE NUTRITION LABELLING TO IDENTIFY 'HEALTHIER CHOICE' PRODUCTS

This study demonstrates that mandatory nutrition labelling per 100 g can be used to identify 'Healthier Choice' breakfast cereals and yogurts. The nutritional criteria (i.e. nutrient cut-off quantities) to identify 'Healthier Choice' products from the wide variety of breakfast cereals and yogurts available on the Irish market are feasible and can be used to identify healthier options within most types of products, with a few exceptions, e.g. Granola breakfast cereals and Luxury yogurts. Therefore, regardless of which cereal/yogurt type is healthiest, preferences can be accommodated within a healthy eating pattern.

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