

## Rationale and discussion of the 15 g high sugars criterion within the FSA signposting scheme

### Background and objectives for setting a high sugars criteria

It is recommended by COMA<sup>1</sup> and WHO<sup>2</sup> that the consumption of free sugars (also referred to as non-milk extrinsic sugars) should be limited to <10% of food energy, while, because of the other nutrients they contain, fruit, vegetables and milk should not be restricted despite their content of sugars. There is no COMA or SACN advice on dietary intakes of total sugars. The challenge has been to establish a suitable approach to setting a high criterion for sugars within the FSA front of pack signposting scheme that is consistent with the dietary guidelines.

The expert group (see Annex 1) set up to review the issue were in agreement that the guideline to limit free sugars to <10% of energy, which equates to a maximum value of 50 g/day for a 2000 kcal diet, should provide the foundation for whichever approach was adopted. The issue to resolve was how to address the intrinsic sugars present in fruit and vegetables, as well as the lactose present in milk (collectively referred to as intrinsic and milk sugars, IMS).

A number of options were considered and subsequently rejected, either because they were deemed too complicated for wide scale application, or diverged from the guidance to limit free sugars to <10% of energy. A pragmatic solution with a high criterion value of 15 g total sugars/100 g food was proposed and endorsed by the majority of the expert group for further consideration by FSA and other stakeholders in the signposting scheme.

### Rationale for the 15 g/100 g high criteria

This approach is based on the fact that almost all free sugars come from manufactured products, and furthermore, that these products only contribute a small amount to the average IMS intake. Food consumption data from the National Diet and Nutrition Survey (NDNS)<sup>3</sup> was used to calculate an average intake of IMS from manufactured products (see Annex 2). It is therefore possible to establish a reference value for the maximum intake of sugars from manufactured products. For a 2000 kcal diet, this can be calculated as follows:

Guideline to restrict free sugars intake to <10 % g/day	= 50
<u>Average intake of IMS from all manufactured products g/day</u>	= 10
Reference limit for sugars intake from manufactured products g/day	= 60

Applying the nutritional criteria the FSA developed to underpin the colour coding for front of pack signpost labelling (i.e. 25 % of the reference value) this translates into a high criterion for sugars of 15 g/100 g<sup>4</sup>.

It is important to recognise that the 60 g reference limit for sugars from manufactured products does not replace the guideline to restrict free sugars to a maximum of 50 g/day for a 2000 kcal diet. The 60 g figure was established to provide a link to the 15 g/100 g high sugars criterion, as a pragmatic solution to the difficulties of specific determinations of free sugars. Although this approach encompasses an IMS allowance, the 15 g value is still closely linked with the recommendations for free

sugars and therefore provides an appropriate basis for the comparison of processed foods, which is the intended function of the FSA traffic light signposting.

### **Practical considerations in implementing the FSA signpost proposal for sugars**

Since the FSA invited stakeholders to comment on the signposting scheme, a number of issues have emerged regarding the application of the 15 g/100 g high criterion for sugars. These and related topics were considered by the expert group.

#### *Impact of widening signposting approach to more processed food categories*

The FSA recommended their signposting approach be applied to a limited range of products. It is now clear that some food retailers and manufacturers want to use the approach on more product categories. The 60 g/day value from which the high criteria have been derived reflects the reference limit for sugars from all manufactured products. It was confirmed that the 15 g value is appropriate for use on the expanded range of processed foods.

#### *Sugars signposting of packaged fresh fruit products (e.g. fruit salads)*

Whilst the signpost scheme is not intended to be used for fruit and vegetable products, product information shows that nearly all fruits have a sugars contents <15 g/100 g and as such packaged fruit salads would be unlikely to fall within the high sugars category.

#### *Potential for manufactured products with high IMS contents to be categorised as high sugars*

Some concern was expressed that the 15 g /100 g criteria could result in inappropriate classification of some high IMS products, principally high fruit muesli and smoothies. The possible solution of providing manufacturers with the option to make an appropriate IMS adjustment for the few products where this would affect the signpost category was considered (see Annex 3). The expert group had some concerns about the transparency of this approach. On balance it was felt that including an optional IMS adjustment would be confusing and potentially misleading for the consumer. Instead it was considered better to apply the 15 g /100 g high sugars criteria to all processed products with a recommendation that in situations where fruit, vegetable or milk contribute an unusually large proportion of sugars (or for fruit juices and smoothies containing 'no added sugar'), manufacturers consider labelling products to indicate the source of the sugars. Source statements indicating the presence of fruit, vegetables and milk should be used preferentially to terms such as 'natural sugars', which are not well defined.

#### *The 15 g/100 g high criterion is considered too generous for most manufactured products*

As the majority of manufactured products just contain free sugars, or only very small amounts of IMS, the allowance of 2.5 g IMS included within the 15 g/100 g high criteria can be considered as too generous for such products. While this is true, it must be considered along with the trade-off that this allowance overcomes the requirement for IMS calculations and the concern about transparency that would result from an approach based purely on free sugars.

## **Conclusions**

1. The 15 g /100 g is an appropriate value for a high criteria for total sugars in manufactured foods, established from the COMA<sup>1</sup> and WHO<sup>2</sup> recommendations to limit free sugars intake to <10 % of energy.
2. This value of 15 g /100 g value includes a 2.5 g allowance for IMS, which is ample for the vast majority of manufactured products.
3. The 15 g/100 g high sugars criteria is applicable across a wide range of manufactured products.
4. For products where a large proportion of sugars are IMS, a statement about their source may be used in conjunction with the signpost to reinforce healthy eating messages and facilitate consumer choice between high sugar products.
5. It should be emphasised that the sugars in fruit, vegetables and milk are associated with beneficial micronutrients.

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<sup>1</sup> Department of Health. Report on health and social subjects No. 41. Dietary reference values for food energy and nutrients for the United Kingdom. London : HMSO, 1991

<sup>2</sup> World Health Organisation. Diet, nutrition and the prevention of chronic diseases. World Health Organisation, Geneva, 2003

<sup>3</sup> L Henderson et al. The National Diet and Nutrition Survey Volume 2. Energy, protein, carbohydrate, fat and alcohol intake. HMSO, 2003.

<sup>4</sup> Food Standards Agency. Front of Pack Signpost Labelling Guidance. In Publication.

## **Annex 1. Membership of the expert group**

The group comprised:

John Cummings - SACN  
Mike Rayner – British Heart Foundation  
Anne Heughan - Unilever  
Linda Main (replaced by Luci Daniels for final meeting) – British Dietetic Association  
Moirra Howie - Waitrose  
Sue Davies – Which?  
Judy Buttriss – British Nutrition Foundation

The following FSA officials supported the group in its work:

Mark Bush  
Claire Boville  
Alison Tedstone  
Rachel Stratton  
Kate Halliwell

### **Consultants**

Alison Stephen from MRC Human Nutrition Research was employed as a consultant to provide expertise in research and background papers for the panel.

Klaus Englyst from Englyst Carbohydrates was employed to draft the views of the expert group into this final paper.

## Annex 2

### Calculation of a value for IMS-MP based on NDNS 19-64 yrs

Reference intake value for sugars from manufactured products (for 2000 calorie diet):	
Calculated NMES allowance (10%E) (g) 2000 x 10/100/4	50
Average daily intake of IMS-MP (g)	8.7
Sugars-MP reference value (g) (NMES allowance +IMS-MP)	<b>58.7</b>

A reference intake value for sugars from manufactured products (Sugars-MP) was proposed as a basis for establishing a high criteria for the FSA sugars signposting scheme. This reference value encompasses:

- (1) The COMA recommendations that NMES limited to a maximum 10% energy, which for a 2000 calorie diet is 50 g.
  - (2) The average intake of IMS derived from manufactured products (IMS-MP), which was estimated as 10 g.
- The derivation of the IMS-MP and Sugars-MP averages are set out below.

#### Average intake of IMS per day (From Table 3.12 (p36), volume 2, 2003):

	Percentage contribution to daily IMS intake*			
	Men (n=833)		Women (n=891)	
	From all Food & drinks	From manufact. products only	From all Food & drink:	From manufact. products only
Bread	1.1	1.1	0.8	0.8
Breakfast cereals	3.3	3.3	3.2	3.2
Buns, cakes & pastries	3.3	3.3	2.2	2.2
Other cereal	4.4	4.4	3.2	3.2
whole milk	6.6		5.4	
Reduced fat milks	19.8		18.3	
Yoghurt	3.3	3.3	4.3	4.3
Other milk products	3.3	3.3	3.2	3.2
Meat & meat products	5.5	5.5	4.3	4.3
Vegetables (excluding potatoes)	11.0		11.9	
Potatoes and savoury snacks	3.3		3.2	
Fruit & nuts	29.7		35.6	
Sugar, preserves & confectionery	2.2	2.2	2.2	2.2
Drinks	1.1	1.1	0.0	0.0
Miscellaneous	2.2	2.2	2.2	2.2
<b>% IMS from manufactured products</b>		<b>29.7</b>		<b>25.6</b>

#### Estimated intake of IMS-MP per day

	<u>Men</u>	<u>Women</u>
Total IMS daily intake (g)	35.5	35.3
NMES daily intake (g)	82.5	66.7
Total sugars intake (g)	<b>118.0</b>	<b>102.0</b>
Total sugars intake (% energy)	19.1	20.1
The proportion of IMS coming from manufactured products can be expressed as % energy intake, and hence the IMS-MP can be calculated for a 2000 cal diet		
IMS-MP daily intake (g)	10.5	9.0
IMS-MP (% total sugars)	8.9	8.8
IMS-MP (%energy)	1.7	1.8
Calculated IMS-MP in 2000 cal diet (g) 2000 x IMS-MP(%E)/100/4	8.5	8.9
		<b>Average</b> <b>8.7</b>

#### Summary

This calculation confirms that 10 g IMS-MP is an appropriate amount to incorporate within the reference intake value of 60 g sugars from manufactured products. Based on the calculation of 25% of the reference value, this establishes a high criteria of 15 g/100 g, which because it relates to all the sugars in the product eliminates the requirement for separate NMES determinations for the nutrition label.

\*Assumptions relating to Table on food type contribution to IMS intake:

Vegetable, potato, fruit. None of the IMS from these groups were included in the IMS-MP calculation. This was done on the assumption that any fruit and vegetables present as ingredients in manufactured products were already accounted for within the other groups such as breakfast cereals; buns, cakes, pastries; Meat products; Miscellaneous.

Bread. The IMS values stated for bread consist of 90% maltose, which has been produced by the yeast fermentation of starch during the 'rising' process. As maltose is not present naturally in flour, but rather is a consequence of food processing, it should not be characterized as IMS. IMS from bread has been adjusted to 10% of the original values, and the percentage contributions from the other food groups have been modified accordingly. The rest of the cereal products have not been adjusted, as their IMS content may have been derived from fruit or vegetable ingredients.

### **Annex 3. Manufacturers option to make an IMS adjustment for the purposes of the FSA signposting scheme for sugars**

Public health organisations and some food manufacturers have requested further consideration for an approach whereby high IMS foods are not to be unduly penalised within the FSA signposting scheme. The rationale for the 15 g/100 g high criterion, encompasses an IMS allowance of 2.5 g which is derived from 25% of the 10 g average IMS intake from manufactured products. While for the majority of products this allowance is ample, there is the potential for a few products where the IMS content could push them into the high category within the FSA signposting scheme. It can be considered whether in such cases an optional IMS adjustment by the manufacturer would be appropriate. It is anticipated that such a scheme would only be applicable to a few products like high fruit muesli.

By this approach, there would still only be a single high category of 15 g. For products with over 15 g sugars, of which more than 2.5 g was IMS, the manufacturers would have the option of calculating the amount of IMS in their product from the ingredients present, and subtracting them from the total sugar value for the purpose of establishing the signposting category. Since the first 2.5 g IMS have already been accounted for, it would not be included in the subtraction.

In order for an IMS adjustment scheme to work in practice, there has to be a clearly defined approach to calculating the NMES and IMS content of foods. The approach used within the NDNS dataset has been considered the most suitable (Kelly et al, 2005, BJN, 93, 114-124):

*'Non-milk extrinsic sugars = All sugars in fruit juices, table sugar, honey, sucrose, glucose and glucose syrups added to food plus 50% of the sugars in canned, stewed, dried or preserved fruits'*

*Intrinsic and milk sugars = All sugars present in fresh fruit, vegetables and milk plus 50% of the sugars in canned, stewed, dried or preserved fruits'*

By only including half the sugars present in processed fruits as IMS, this definition recognises that some of the characteristics of the fruit are altered during processing. For example, dried fruit are energy dense and can stick to teeth increasing their cariogenicity. In products where the sugars have been extracted from the cellular structure (e.g. fruit juice) they are considered 100% free sugars. All sugars that are added or produced during food processing are considered as free sugars, including lactose when added as milk extracts and maltose from malting processes.

Example:

High fruit muesli. 22 g/100 g sugars of which 20 g from dried fruit (i.e. 10 g IMS).

Signposting calculation:  $22 - (\text{IMS} - \text{IMS allowance}) = 22 - (10 - 2.5) = 14.5$

#### **Additional considerations**

Inclusion of the optional IMS adjustment adds complexity, which can be perceived as reducing the transparency of the sugar signposting scheme. Nevertheless, if a firm requirement for an IMS adjustment is established, it is essential that such an approach be as consumer friendly as possible.

Wide-scale application of IMS calculations is considered unnecessary and impracticable for manufacturers who may find it disproportionately burdensome to perform such calculations routinely, and disliked by consumer groups because it would reduce the transparency of the criteria and could introduce traceability issues. These issues are more manageable when the use of IMS calculations are restricted to a few manufactured products such as high fruit, no added sugar museli. In order to maintain transparency, the IMS calculation used should be made available on request.

It was also noted that application of the IMS adjustment would cause the information on sugars in the nutrition label to differ to that in the signpost and this may lead to consumer confusion unless the inclusion of a positive nutritional statement on the packaging was made a condition of applying the IMS adjustment. For example:

*Recommendations are to eat less free sugars. Sugars can also come from fruit, vegetables and milk, which we should generally eat more of. The traffic light for sugars takes this into account.*