UK Approach to Nutrient Profiling

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Nutrition Science
Food Standards Agency
November 2006
Policy purpose

UK model

• Was developed as a tool to enable the regulation of advertising of food and drink to children
• Aims is to contribute to improving children’s diets
• Is a tool allows individual foods and drinks to be assessed against scientific nutrition criteria
The Balance of Good Health

Fruit and vegetables
Bread, other cereals and potatoes
Meat, fish and alternatives
Foods containing fat
Foods and drinks containing sugar
Milk and dairy foods

There are five main groups of valuable foods
Background

- Children eat too much salt, fat and sugar and not enough fruit and vegetables
- Unbalanced promotional environment contributes to lack of balance in children’s diets
- Hastings review of evidence
Public Health White Paper, 2004

“develop criteria that take account of fat, salt and sugar levels to indicate the contribution a food makes to a healthy balanced diet. By mid-2005 we aim to have introduced a system that could be used .... to identify which foods can be promoted to children.”
What FSA nutrient profiling model is not

• It is not a consumer communication tool
• It is not the same thing as signposting or the so-called “traffic lights”
• It is not a means of mapping out the whole diet for all individuals
Development of a nutrient profiling model
Development of a nutrient profiling model: **Management**

- FSA – *risk managers*
- Experts from the British Heart Foundation Health Promotion Group - *contractors*
- Expert working group of nutrition professionals, industry representatives, consumers, and independents – *over saw development*
- Scientific Advisory Committee on Nutrition – *checked scientific validly*
Consultation

• Academic workshop
• Subject to full public consultation process
  (Nov 2004 - Feb 2005 and July - Sept 2005)
Systematic Approach

- Systematic approach
  - Literature review to inform the project
  - Development of models according to expert group parameters (nutrients, bases g / kj and per serving, type of model – threshold and scoring)
  - Refinement of models through testing, expert advice and consultation
Four-stage decision process

**Choice of Nutrients**
- Energy, saturated fat, salt, sugar
- fibre, protein, fruit and vegetables, nuts

**Choice of Base**
- Per 100g

**Choice of Model Type**
- scoring

**Choice of Numbers**
- based on expert advice
Choice nutrients

Examples – what was tested:

- Energy
- Sat fat, total fat, LC n3 fatty acids
- Non-milk extrinsic sugar, added sugar, total sugar
- Calcium
- Iron
- Fruit and vegetables
- Fibre, NSP, AOAC
Choice of nutrients

- After review and initial discussion
  - Negative components - saturated fat, NMES, energy density
  - Balancing – calcium, iron, LC n-3 fatty acids, fruit & veg

- Academic workshop - protein as replaced calcium, iron and LC n-3 fatty acids

- Early changes – total sugar replaced NMES and fibre added

- SACN recommend nuts added

- Consultation leads to inclusion of AOAC fibre score
Choice of Base

Initial Parameters Modelled;
- per 100g,
- per 100kj,
- per 100g and or per serving
- per 100kj and or per serving

Expert group agreed 100g base - serving sizes difficult to define and 100g is basis of other nutrient criteria
Choice of numbers

• Based on expert advice from COMA/SACN
• Expert group agrees numbers should relate to agreed public health recommendations - eg FSA guidance on what constitutes ‘a lot’, GDAs, Balance of Good Health, population dietary goals.
• Refinement through testing and expert advice
# Numbers

<table>
<thead>
<tr>
<th>Points ⇒</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Energy (kJ)</strong></td>
<td>&lt;335</td>
<td>≥335</td>
<td>≥670</td>
<td>≥1005</td>
<td>≥1340</td>
<td>≥1675</td>
<td>≥2010</td>
<td>≥2345</td>
<td>≥2680</td>
<td>≥3015</td>
<td>≥3350</td>
</tr>
<tr>
<td><strong>Sat Fat (g)</strong></td>
<td>&lt;1</td>
<td>≥1</td>
<td>≥2</td>
<td>≥3</td>
<td>≥4</td>
<td>≥5</td>
<td>≥6</td>
<td>≥7</td>
<td>≥8</td>
<td>≥9</td>
<td>≥10</td>
</tr>
<tr>
<td><strong>Total Sugar (g)</strong></td>
<td>&lt;4.5</td>
<td>≥4.5</td>
<td>≥9</td>
<td>≥13.5</td>
<td>≥18</td>
<td>≥22.5</td>
<td>≥27</td>
<td>≥31</td>
<td>≥36</td>
<td>≥40</td>
<td>≥45</td>
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<tr>
<td><strong>Sodium (mg)</strong></td>
<td>&lt;90</td>
<td>≥90</td>
<td>≥180</td>
<td>≥270</td>
<td>≥360</td>
<td>≥450</td>
<td>≥540</td>
<td>≥630</td>
<td>≥720</td>
<td>≥810</td>
<td>≥900</td>
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</table>

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<th>Points ⇒</th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Protein (mg)</strong></td>
<td>&lt;1.6</td>
<td>≥1.6</td>
<td>≥3.2</td>
<td>≥4.8</td>
<td>≥6.4</td>
<td>&gt;8.0</td>
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<tr>
<td><strong>Fibre (mg)</strong></td>
<td>&lt;0.7</td>
<td>≥0.7</td>
<td>≥1.4</td>
<td>≥2.1</td>
<td>≥2.8</td>
<td>&gt;3.5</td>
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<tr>
<td><strong>Fruit &amp; Veg (%)</strong></td>
<td>&lt;30</td>
<td>≥40</td>
<td>≥50</td>
<td>-</td>
<td>≥70</td>
<td>80</td>
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</table>
Choice of Model Type

- Threshold
- Simple scoring
- Complicated scoring
Nutrients → Base → Number

36 Models

50 Indicator foods
200 Reference foods
1000 Real foods

12 Models

120 Indicator foods

Nutrition

Validation

Society members

1

Model reintegration

TESTING
# The preferred model

<table>
<thead>
<tr>
<th>Add points</th>
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<th>2</th>
<th>....</th>
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<tbody>
<tr>
<td>Energy (kj)</td>
<td>=335</td>
<td>&gt;335</td>
<td>&gt;670</td>
<td>....</td>
<td>&gt;3350</td>
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<tr>
<td>Sat fat (g)</td>
<td>=1</td>
<td>&gt;1</td>
<td>&gt;2</td>
<td>....</td>
<td>&gt;10</td>
</tr>
<tr>
<td>Total sugar (g)</td>
<td>=4.5</td>
<td>&gt;4.5</td>
<td>&gt;9</td>
<td>....</td>
<td>&gt;45</td>
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<tr>
<td>Sodium (mg)</td>
<td>=90</td>
<td>&gt;90</td>
<td>&gt;180</td>
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<td>Protein (g)</td>
<td>=1.6</td>
<td>&gt;1.6</td>
<td>&gt;3.2</td>
<td>....</td>
<td>&gt;8.0</td>
</tr>
<tr>
<td>Fibre (g)</td>
<td>=0.7</td>
<td>&gt;0.7</td>
<td>&gt;1.4</td>
<td>....</td>
<td>&gt;3.5</td>
</tr>
<tr>
<td>Fruit, veg &amp; nuts (%)</td>
<td>=40</td>
<td>&gt;40</td>
<td>&gt;60</td>
<td>....</td>
<td>&gt;80</td>
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</table>

HFSS food = 4 or more

HFSS drink = 1 or more
<table>
<thead>
<tr>
<th>Wholemeal bread</th>
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<td>0</td>
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<tr>
<td>Energy</td>
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<td>2</td>
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High in fat, salt or sugar

Healthier Choice
Sliced white bread

<table>
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<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>...4</th>
<th>5...</th>
</tr>
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<tbody>
<tr>
<td>Energy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sat Fat</td>
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<td>Sugars</td>
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<tr>
<td>Protein</td>
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<tr>
<td>Fibre</td>
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<tr>
<td>F,V &amp; N</td>
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</tbody>
</table>

Total = \(2 + 0 + 0 + 5 - 4 - 2 - 0 = 1\)

High in fat, salt or sugar

Healthier choice
### Chicken Nuggets

<table>
<thead>
<tr>
<th></th>
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<th>2</th>
<th>3</th>
<th>5+</th>
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<tbody>
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<tr>
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<td>Sugars</td>
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<td>Sodium</td>
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<tr>
<td>F,V &amp; N</td>
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Total = $3 + 1 + 0 + 7 - 1 = 10$

**High in fat, salt or sugar**

**Healthier Choice**
Chicken Breast

Total = 1 + 0 + 0 + 1 - 5 - 0 - 0 = -3

High in fat, salt or sugar

Healthier Choice
FSA model

- Is practical to apply
- Is recipe dependent and therefore encourages innovation
- Classifies foods in a way that is consistent with:
  - opinion of nutrition professionals and experts
  - existing healthy eating advice
  - existing DH/FSA consumer messages (e.g. 5 a day, salt campaign, advice on oily fish)

For further information visit [www.food.gov.uk](http://www.food.gov.uk)