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Government and voluntary policies on nutrition labelling: a global overview

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Abstract: Many governments around the world have developed policies to encourage a standard, truthful and informative system for labelling nutrients on packaged foods, and government oversight is increasing. Food companies are now also developing alternatives, notably labels that depict nutritional information in a graphical form. This chapter reviews these policies and identifies key trends. An important conceptual shift is that nutrition labelling is no longer perceived solely as an information tool to ensure honest commerce, but as a health promotion tool and, for the global food industry, a marketing tool. While these trends are global, there remain large and significant differences between approaches to nutrition labelling around the world.

Key words: nutrition label, government policy, food industry, Codex Alimentarius, nutrient reference values.

4.1 Introduction

A 'nutrition label' is a panel on which nutritional information about a food product is displayed. It is usually found on the food item itself, but may also be found on a display device associated with the food, such as a menu or supermarket shelf. There are two broad types of nutrition label. The first, and traditional type, is the 'nutrition facts table', a boxed table that lists the nutrients found in the food and their amount. The second, and much more recent type, is the graphical nutrition label, which displays nutritional information in a more graphical, interpretative way. Many countries and, more recently, many food companies have developed

regulations, standards or guidelines to define if and when nutrition labels should be applied, their category and format, the nutrients required, and on what types of foods. Governments have historically been concerned with the nutrition facts tables, with graphical labels being developed by the food industry, although some governments are also active in this area.

The basic aim of nutrition labelling is to guide the selection of food products by consumers. While food companies can apply nutrition labels at their own volition, there are several reasons why governments have found it important to develop regulations and standards on nutrition labelling, as follows:

- to provide a standard format for labelling nutrients, thus preventing the use of a potentially confusing multitude of different formats by different food companies;
- to ensure that food companies label the 'less desirable' nutrients (e.g. saturated fats) as well as 'positive' nutrients (e.g. vitamins);
- to provide proof that nutrition claims made on the label are honest and truthful;
- to ensure that nutrition labelling does not describe a product or present information about it which is in any way false, misleading or deceptive;
- to encourage food manufacturers to apply sound nutrition principles in the formulation of foods;
- to encourage the use of a format which is effective and encourages consumers to make healthier dietary choices;
- to meet the nutrition labelling requirements of other countries, thus facilitating the export of domestically-produced foods.

Food companies come from a different perspective when developing voluntary guidelines on nutrition labelling. Their aims are generally to (i) contribute to efforts to promote healthier diets; (ii) introduce a new marketing tool and a new form of competitive advantage; and/or (iii) deflect the development of mandatory government standards.

This chapter presents a global overview of regulations, standards and guidelines on nutrition labelling around the world. It first examines government regulations on nutrition facts tables. It describes the different approaches to requirements for nutrition facts tables, including considerations of format and the foods covered. The information on government regulations was obtained using the methods described in a benchmark survey conducted in 2003/04 (Hawkes, 2004), coupled with a survey of the Food and Agriculture Organization (FAO) focal points for the Codex Alimentarius conducted in 2008. Information was obtained for 79 countries.

The chapter then examines the increasing number of voluntary guidelines developed by the food industry on graphical approaches, and the role of government in these approaches. It then identifies and analyses key trends in the regulations, standards and guidelines on nutrition labelling, followed by some concluding comments.

Nutrition Facts			
Serving Size 1 cup (228g)			
Servings Per Container 2			
Amount Per Serving			
Calories 250	Calories from Fat 110		
% Daily Value*			
Total Fat 12g	18%		
Saturated Fat 3g	15%		
<i>Trans</i> Fat 1.5g			
Cholesterol 30mg	10%		
Sodium 470mg	20%		
Total Carbohydrate 31g	10%		
Dietary Fiber 0g	0%		
Sugars 5g			
Protein 5g			
Vitamin A	4%		
Vitamin C	2%		
Calcium	20%		
Iron	4%		
*Percent Daily Values are based on a 2,000 calorie diet Your Daily Values may higher or lower depending on you calorie needs.			
	Calories	2,000	2,500
Total Fat	Less than	65g	50g
Sat Fat	Less than	25g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrates		300g	375g
Dietary Fiber		25g	30g

Fig. 4.1 Example of a nutrition facts table: United States. Image provided by the Food and Drug Administration (www.fda.gov).

4.2 Nutrition facts tables

Found on the back or side of food packages, nutrition facts tables comprise a list of nutrients, their amounts and some form of numerical quantifier (Fig. 4.1). Government regulations around the world dictate if and when nutrition facts tables (sometimes called ‘nutrition facts panels’ or ‘nutrition information panels’) are required, the nutrients that must be listed, the reference quantifier and the foods to which they must be applied. Each is now discussed in turn.

4.2.1 General requirements

With regard to if and when nutrition facts tables are required, countries tend to fall

into one of the following categories of regulation, in increasing degree of stringency:

- no regulation (i.e. nutrition facts tables are entirely voluntary and no particular nutrient list or format is required);
- guidelines on format and nutrient list for voluntarily applied nutrition labels;
- voluntary except on foods with special dietary uses (e.g. infant formula, cereal based food for young children, diabetic food; fortified or enriched foods), in which case there are requirements for the nutrient list and format;
- voluntary unless a nutrition or health claim appears on the food, in which case there are requirements for the nutrient list and format; these regulations are often in addition to the requirement to label foods with special dietary uses;
- mandatory on all packaged foods (with some variations on the food groups covered).

Table 4.1 shows the prevalence of these regulations for 79 countries. The majority of these regulations (46 countries, or 58%) require that packaged foods carry a nutrition label only when a nutrient (or health) claim is made; some of these countries also require nutrition labels on foods with special dietary uses. An equal number of countries were identified to have mandatory labelling and no regulation (13 in both cases), but this equal number is most likely due to the over-representation of countries with some form of regulation in the sample. In reality, more countries have no regulation than mandatory labelling. Eight countries require labelling just on foods with special dietary uses.

The majority tendency for countries to require nutrition labelling when a claim is made is a reflection of guidelines from the Codex Alimentarius Commission. The Guidelines on Nutrition Labelling (CAC/GL 2_1985, revised 1993) state that nutrition labels should only be required when a nutrition claim is made. The General Standard for the Labelling of and Claims for Prepackaged Foods for Special Dietary Use (Codex Stan 146_1985) also recommends that all foods for special dietary uses display a nutrition label.

It should be noted that the absence of regulation or policy does not necessarily mean absence of nutrition labels. For example, in Jamaica, there is no requirement for nutrition labelling, but labels are widely used, largely because of the need to meet export standards (CAC, 2008a). It is likewise important to note that, even where nutrition labels are only required where a claim is made or on foods with special dietary uses, the regulations usually also set out standards for the label format when they are applied on a voluntary basis. Thus even if the label is applied voluntarily, it still must follow mandatory standards on its format.

Table 4.1 lists the countries falling into each of these categories. As indicated, there are some regional similarities in regulations on nutrition facts tables. Both Canada and the United States require mandatory labelling. The United States was one of the first countries in the world to make nutrition labelling mandatory (implemented in 1994 following legislation in 1990). The only change in the regulation in the United States since that time has been the

Table 4.1 Categories of approaches to regulating nutrition labelling in 79 countries

Mandatory	Voluntary unless nutrition claim (or health claim) is made	Voluntary except for foods with special dietary uses	Always voluntary, but formatting standards in case of use	No regulation
Australia	All 27 European Union countries	Bahrain	Bolivia ^c	Bahamas
New Zealand	Switzerland	Jordan		Barbados
Canada	China ^c	Kuwait		Bermuda
United States	Colombia	Oman		Belize
Argentina	Costa Rica	Qatar		Dominican Republic ^b
Brazil	Ecuador	United Arab Emirates		Haiti
Chile	Egypt	Venezuela		Honduras
Paraguay	El Salvador			Bangladesh
Uruguay	Guatemala			Pakistan
Hong Kong (SAR)	Mexico ^d			Cambodia
Malaysia (on most foods)	Brunei			Kenya
Thailand (on some foods) ^a	Indonesia			Ghana
Israel	Japan			Jamaica
	Philippines			
	Singapore			
	Thailand ^a			
	Vietnam			
	South Africa			
	Tunisia			
	Turkey			

^aThailand is unique in having three sets of conditions triggering the requirement for a nutrition label: foods with nutrition claims, foods which utilize food value in sale promotion and which define consumer groups in sale promotion (that is, the usefulness or function, ingredients or nutrients of product to health for use in sale promotion and sales promotions that are aimed for specific consumer groups such as: students, executives, elderly groups); plus, as of 2007, a series of snack foods (fried or baked crispy potatoes, fried or baked popcorn, rice crackers or extruded snacks, toasted bread, crackers, or biscuits, and wafers).

^bA first draft of regulations on nutrition labelling has been completed.

^cThe standards on nutrition labelling are being revised to reflect the latest Codex versions for possible national adoption.

^dThe possibility of mandatory labelling is currently being considered.

^eDue to be implemented 1 May 2010. By legal definition, the new guideline is voluntary but, in practice, the guideline will be mandatory for all products that carry claims.

introduction of trans fat labelling in 2006. Canada introduced its regulations around a decade later (2003, with full compliance required in 2007), and included trans fats on the nutrient list.

Under European Union (EU) law, all 27 European Union countries have the same laws on nutrition labelling. Under Council Directive 90/496/EEC (as amended by Commission Directive 2003/120/EC), nutrition labelling is voluntary unless a nutrition claim is made in the labelling, presentation or advertising of a foodstuff. The Directive also lays down a standardised format for the presentation of nutritional labelling. In place for all EU members since 1990,

the accession of 10 countries to the EU in 2004 had the effect of significantly increasing the number of eastern European countries applying this approach. The Directive is, however, in process of being revised; the proposed directive would make nutrition labelling mandatory for the EU countries (discussed further below).

There is a wide variation of regulations in Latin America and the Caribbean, ranging from no regulation at all to mandatory requirements. But there are some country groupings that follow relevant economic and trade agreements. All the MERCOSUR* countries require mandatory nutrition labelling (MERCOSUL*, 2008). This situation arose after Brazil introduced a mandatory labelling law in 2001. Following the passage of the law, neighbouring MERCOSUR countries raised concerns about the label being a potential barrier to trade. The four MERCOSUR countries then negotiated the issue, leading to the development of mandatory labelling in all four countries (implemented in 2006), but with some alterations to the format and the nutrients listed in the original Brazilian law. Chile is the only other Latin American country to require nutrition labelling on all packaged foods; the law containing this requirement was passed in 2006.

There is also an effort underway to regionalise nutrition labelling in Central America. The draft 'Reglamento Centroamericano de Etiquetado Nutricional' is being developed by the Central American Customs Union (Unión Aduanera Centroamericana) with input from all the relevant countries. The draft defines the rules that must be followed when foods are labelled with nutritional information, either voluntarily by the food company, or where it is required when a nutrition claim is made or on foods with special dietary uses. Thus, the regulations would define the rules that must be followed when foods are labelled with nutritional information, but it does not impose any requirements on when and if nutrition labels are required.

All the Gulf States (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates) follow the same standard. Nutrition labelling is regulated through the Gulf Cooperation Council Standardization Organization (GSO) standard GSO 9/2007 (replacing GSO 9:1995) on the 'Labelling of prepackaged foods'. The standard requires nutrition facts panels on foods with special dietary uses. This approach is also taken in Jordan, but not in Egypt, which instead requires nutrition labelling when a claim is made.

Australia and New Zealand follow the same law on nutrition labelling. The law, developed by the inter-governmental agency, Food Standards Australia New Zealand (FSANZ), requires mandatory labelling. Thus all packaged foods have to bear a nutrition facts table.

Government regulations in the highest proportion of South East Asian countries require nutrition facts tables on foods only when a nutrition claim is made and on food with special dietary uses. Recent activity in some countries has departed from

MERCOSUR and MERCOSUL are Spanish and Portuguese acronyms referring to the Common Market of South America (www.mercosur.int/)

this tendency. In 2008, Hong Kong Special Administrative Region (SAR) introduced new regulations that made nutrition labelling mandatory on all packaged foods. This was subsequent to a new law in Malaysia mandating nutrition labelling for more than 50 categories of commonly consumed foods (implemented in 2005), and a notification issued in Thailand in 2007 mandating nutrition labels on selected snack foods. In 2008, the Chinese government also introduced new (non-binding) guidelines that require nutrition labels, where used, to have a standardised format.

No regulations were identified in South Asia or Africa, with the exception of South Africa and Tunisia.

4.2.2 Nutrient list

There is considerable variation between government regulations on the requirements on the nutrients that must be included in nutrition facts tables. Nutrients fall into one of three categories:

- Nutrients that must be declared at all times.
- Nutrients that must be declared if a claim is made about a specific nutrient.
- Nutrients that can be declared on a voluntary basis.

All countries without exception require that energy, plus proteins, total fats and carbohydrates (either total or available) must be declared where a nutrition label is required. This reflects the Codex recommendation that energy plus proteins, total fats and available carbohydrates should be listed on the label. Beyond this basic requirement, there is a great deal of variation. Some countries, including Costa Rica and Egypt, only require that energy and the basic three appear on the label, plus any nutrient for which a claim is made. Other countries, like El Salvador and the Philippines' also follow Codex by requiring energy and the basic three, but also require the declaration of vitamins and minerals when they are present in significant quantities. Other countries require anything from a total of four nutrients (plus energy) to 13. For example, China and the Gulf States require four nutrients, South Africa five, Australia/New Zealand six, the MERCOSUR countries seven, and Thailand 12. These different regulations require different mixes of nutrients. In addition to the basic three, the most commonly required nutrients are dietary fibre, saturated fat and sodium. Several countries also require sugars and trans fats and, to a lesser extent, cholesterol. A small number of countries require the declaration of calcium, iron, vitamin A and/or vitamin C (e.g. Colombia, Ecuador, Thailand). Thailand is unusual in requiring vitamin B1 and B2, and Ecuador unusual in requiring potassium.

Additional nutrients may also be required when they are subject to a claim or have been added to a fortified food. In many countries, this involves just adding the claimed nutrient into the facts table if it is not already listed. In others, a claim for specific nutrient triggers the requirement for an additional group of nutrients. In the EU, when a nutrition claim refers to sugars, saturated fatty acids, dietary fibre or sodium, an additional cluster of nutrients is required – sugars, fats, saturated

fatty acids, dietary fibre and sodium – alongside energy and the basic three. For other claims, just energy and the basic three are required. In the MERCOSUR countries, when a claim is made for fat or cholesterol, the addition of monounsaturated fats, polyunsaturated fats and cholesterol is required alongside the mandatory total fat, trans fats and saturated fats. A similar principle applies in Australia and New Zealand, where a ‘low cholesterol’ claim triggers a requirement for information on the levels of cholesterol, trans, polyunsaturated and monounsaturated fatty acids.

In addition to these nutrients, some regulations provide a specific list of additional nutrients that can be declared on an entirely voluntary basis, as is the case in Canada, the EU, Indonesia, the MERCOSUR countries and recently implemented regulations in Colombia and the Philippines. Other regulations, such as those in Japan, allow any other nutrient to be declared on a voluntary basis. Some countries mandate the order in which the nutrients should appear (e.g. Japan, the United States), while others do not (e.g. Hong Kong SAR). Regulations also usually dictate the size and positioning of the nutrition label.

4.2.3 Reference unit

Nutrition facts tables list the nutrients required with the quantity of the nutrient, usually in grams or millilitres, alongside. An additional requirement included in all regulations is the use of a reference unit, i.e. the quantity of each nutrient relative to a specific reference unit printed adjacent to the nutrient list (Fig. 4.1). A reference unit is used to make nutrient information more consumer friendly: a standardised format allows for easier comparison between food items, and can indicate how much a food portion contributes to nutrient needs. Three reference units are used:

- *Per 100 g/100 ml*: This is the measure recommended by the Codex to quantify nutrients on a nutrition label, as it allows direct comparisons between products.
- *Per serving*: This measure is intended to allow the consumer to see the specific amount of a nutrient consumed in a likely serving size. If this form is used, the number of servings in the package must also be indicated.
- *Per recommended daily amount*: This is intended to help consumers understand the relationship between the nutrient content per serving of the product and targeted intakes of particular nutrients. Countries use different terms, such as ‘daily value’ ‘recommended daily intake/amount,’ ‘guideline daily amount’ or ‘recommended energy and nutrient intake’. The Codex guideline recommendation is to use the ‘percentage nutrition reference value’ which was developed specifically for international application as the reference standard for Codex guidelines.

Again, there is wide variation in the reference unit adopted by different countries. Many regulations require the use of more than one unit, and may permit others on a voluntary basis. For example:

- Some countries just require the ‘per 100 g/100 ml’ unit with ‘per serving’ as a voluntary addition in some cases, e.g. the EU Directive, Costa Rica, the Gulf States, South Africa, Vietnam and Israel. In addition, the EU Directive (in an approach also followed by Costa Rica and South Africa) requires that vitamins and minerals must be expressed as a percentage of the recommended daily amount.
- Some countries require *either* the 100 g/100 ml unit *or* the per serving approach, e.g. Brunei, Hong Kong SAR and Japan.
- Some countries require *both* 100 g/100 ml *and* per serving, e.g. Australia, New Zealand, Chile, China, the Philippines, Singapore and Malaysia.
- Some countries require per 100 g/100 ml and per serving *if* a reference serving size is provided, e.g. Tunisia.
- Some countries require per 100 ml/100 g *or* per serving, *plus* percent recommended daily amount, e.g. Thailand.
- Some countries require percent of recommended daily amount and per serving, but not per 100 g/100 ml. e.g. Canada, the United States, Colombia, Ecuador and the MERCOSUR countries.

4.2.4 Types of food

Most national regulations on nutrition labelling cover all packaged foods (often termed ‘pre-packaged foods’). Thus where regulations require nutrition facts tables only where a nutrition claim is made, it refers to all packaged foods with a nutrition claim. Or, if it is mandatory, it refers to all packaged foods. Two countries take a differing approach. Malaysia and Thailand do not require nutrition labels on all packaged foods, but on a specific list of foods. In Malaysia, nutrition labelling is mandatory on a list of over 50 commonly consumed foods, falling into the general categories of prepared cereal foods and bread, flour-based pastries, cakes and biscuits, canned meat, fish and vegetables, canned fruit and various fruit juices, salad dressings and mayonnaise and soft drinks. These foods were selected because they are ‘frequently consumed and in significant amounts, and are important to the community’ (Food Safety and Quality Division, 2006, p. 9). In 2007, the Thai government passed a notification requiring that “fried and baked crispy potatoes, fried and baked popcorn, rice crackers and extruded snacks, toasted bread, crackers, biscuits and filled wafers” must be accompanied by a nutrition facts table (Ministry of Health Thailand, 2007).

Regulations may also exempt specific foods from labelling. Exceptions typically comprise waters, coffee/tea, vinegars, foods in packages less than a certain size, foods sold at fundraising events, foods purchased from restaurants and other catering services, and fruits, vegetables, meat and fish to which nothing has been added. In the United States, businesses with turnovers less than a specific amount are also exempt.

Of note, in the United States, while fresh foods are exempted, nutrition labelling information is nevertheless required ‘to be displayed clearly at the point of

purchase ... or placed in a booklet, loose leaf binder, or other appropriate format that is available at the point of purchase' (Electronic Code of Federal Regulations). Also in the United States, there is a trend towards requiring the declaration of calories on restaurant foods (Center for Science in the Public Interest, 2008). As of October 2008, over 20 cities and states were considering legislation and regulations that would require fast food and other chain restaurants to provide calories and other nutrition information on menus and menu boards. In September 2008, California became the first state to require calories to be labelled on menus and menu boards of chain restaurants. This follows from legislation in three large cities: New York City, San Francisco and Seattle. In Canada, a bill requiring that chain restaurants declare nutritional information on their products put before Parliament in 2006 failed to pass.

4.3 Graphical nutrition labelling

Graphical approaches to nutrition labelling aim to increase the ability of consumers to see, read, interpret and act upon the nutritional information provided on the package. In this more interpretative approach, a graphic format is used, usually on the front of the packet or elsewhere in the field of vision, that displays and interprets the nutrition information. Because of the emphasis on visibility, this is sometimes referred to as 'front-of-pack' labelling, though in fact graphical formats can also be found in other locations apart from the front of the food package.

Graphical formats are a relatively recent phenomenon, and remain largely in the domain of western countries. Their use has been increasing in light of evidence that nutritional facts tables are insufficiently effective (Cowburn and Stockley, 2003). Unlike nutrition facts tables, guidelines on graphical formats have been largely developed by the food industry, with the important exception of traffic light labelling.

There are four broad types of graphical nutrition labels, each of which is now discussed in more detail: traffic light labelling, guideline daily amount (GDA) labels, nutrition scoring systems and calorie labelling.

4.3.1 Traffic light labelling

Traffic light labelling was pioneered in the United Kingdom. The idea was first proposed by a medical Non-Governmental Organization (NGO), the Coronary Prevention Group, in the early 1990s (Coronary Prevention Group, 1992). The government agency responsible for food, the Food Standards Agency (FSA), took up the approach in the mid-2000s in light of research that showed that consumers found existing nutritional labelling information complex and difficult to understand (FSA, 2006). Following extensive consultation, the FSA agreed a consistent approach for 'traffic light' labelling, with four core elements (Fig. 4.2): separate information on the key nutrients: fat, saturated fat, sugar and salt; use of red, amber

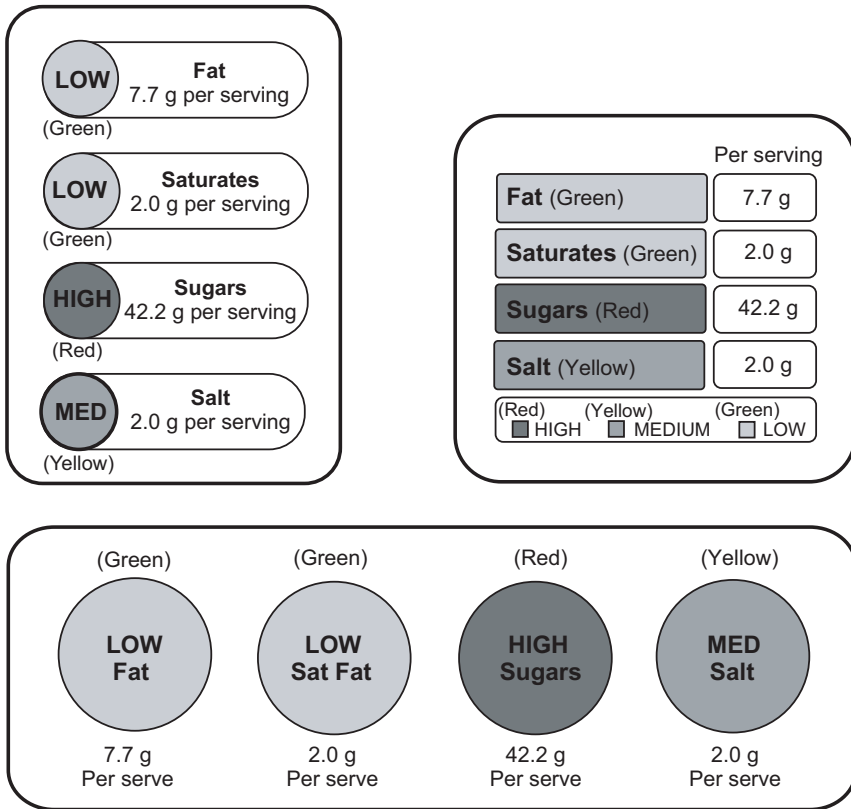


Fig. 4.2 Traffic light labels from the United Kingdom. The labels use the following colours: red – high; yellow – medium; green – low. Images provided by the Food Standards Agency (www.food.gov.uk).

or green colour coding to provide at a glance information on the level (i.e. whether high, medium or low) of the individual nutrients in the product; provision of information on the levels of nutrients present in a portion of the product; use of nutritional criteria¹ developed by the FSA to determine the colour banding.

Since the UK government does not have the authority to regulate nutrition labelling (since it falls under EU law), the FSA could not impose the scheme, but rather called on food retailers and manufacturers to adopt the approach voluntarily. The aim of the FSA was to encourage a consistent approach but with enough flexibility to allow food companies, supermarkets and restaurants to develop their own labelling schemes. They were concerned that consumers would become

¹The nutritional criteria was based on existing advice from independent group of government advisers, the Scientific Advisory Committee on Nutrition (SACN), with the green boundaries being determined by European Regulation (EC) No 1924/2006 on Nutrition and Health claims (FSA, 2007).

(a)



(b)



Fig. 4.3 GDA nutrition labels. (a) CIAA (Confederation of the Food and Drink Industries of the EU) scheme. Reproduced with permission of the Confederation of the Food and Drink Industries of the EU (CIAA). (b) Australian Food and Grocery Council Daily Intake Guide. Reproduced with the permission of the Australian Food and Grocery Research Council.

confused by a proliferation of schemes with differing symbols and criteria. As of April 2009, nine retailers, 31 manufacturers, five service providers and one restaurant were using labels that follow the official FSA guidance. Two retail chains in Portugal and France have also adopted the ‘traffic light’ approach. Governments in Chile and Thailand have also considered traffic light labelling although it was never adopted.

4.3.2 Guideline daily amount labelling

Although many UK food companies have taken up the traffic light approach, it remains unpopular with the food industry more broadly on the basis that it conveys the impression that foods are either ‘good’ or ‘bad’. Partly as a result, the European food industry developed the Guideline Daily Amount (GDA) approach. GDA labelling involves presenting the amount of energy and key nutrients in one portion of the food as a percentage of the ‘guideline daily amount’ (i.e. the amount of energy/nutrients recommended that an average person consume in one day) in a graphical form, usually with some part of the label on the front of the package (Fig. 4.3). The leading food industry trade group in Europe, the Confederation of the Food and Drink Industries of the EU (CIAA), developed a GDA labelling scheme in 2006, which they advised all their members to follow. The CIAA GDA

system involves labelling the calorie amount in one portion of the product and its translation into the percentage of GDA on the front of the packet, with the voluntary addition of four nutrients (fat, salt, sugar and saturated fat) either on the front or the back, depending on the packaging. The graphic takes the appearance of 'thumbnail' (Fig. 4.3a). Many main brand food manufacturers have adopted the approach. An independent survey commissioned by the CIAA in 2008 of 2026 food and drink producers in France, Italy, Spain, the United Kingdom and the Netherlands showed that nearly half of all respondents (44%) were using GDA labels (CIAA, 2008). The CIAA also estimated that, by the end of 2008, some 1030 brands, including 80% of all soft drinks and branded breakfast cereals in the EU would be using GDA labelling.

While some retailers have adopted the CIAA approach, e.g. Tesco (UK) and Aldi, Lidl and Metro (Germany), many supermarkets have designed their own GDA labels for their own-brand foods as a means of creating competitive advantage. This variation reflects advice from the trade association representing European retailers, EuroCommerce, that their members provide nutritional labels on own-brand products, but with no particular recommended format (EuroCommerce, 2007).

Governments and governmental agencies have played a limited role in the development of GDA schemes, but have sometimes been involved. The CIAA scheme and the approach take by EuroCommerce were developed as 'commitments' made to the EU Platform on Diet, Physical Activity and Health, a European Commission initiative that encourages the food industry to make measurable commitments to promoting healthy diets and addressing obesity in the EU. In addition, one country, Germany, has adopted the CIAA scheme as its official guidance to the food industry on nutrition labelling (Bundesministerin für Ernährung, Landwirtschaft und Verbraucherschutz, 2008).

A GDA scheme is also in place in Australia (Fig. 4.3b). Termed the 'Daily Intake Guide', the scheme was launched by the leading trade association representing the food industry, the Australian Food and Grocery Council (AFGC) in 2006. The label is very similar to the CIAA approach, but includes a greater number of nutrients in order to follow Australian law. Nutrition labelling is mandatory in Australia, and nutrients must be listed (in a nutrition information panel on the back of the pack) per portion and per 100 g/100 ml, with per GDA (termed percent daily intake) as a voluntary addition. If per GDA is applied, companies are permitted to apply a calories GDA label. If the company also wants to display other nutrients as GDAs, they must include the six nutrients required as mandatory on the nutrition facts panel, not just the four required by the CIAA scheme (AFGC, 2008; FSANZ, 2008). As of February 2009, the Daily Intake Guide appeared on over 1100 products produced by leading food manufacturers in Australia, such as McDonald's, Coca Cola, McCain, Birds Eye, and some food retailers, such as Woolworths and Coles.

GDA labelling is also reportedly used in other countries, including Canada, the United States and several middle income countries (e.g. see Lobstein, 2008). This is the result of initiatives taken by specific companies; there are no GDA-specific



Fig. 4.4 Example of a nutrition scoring system. Reproduced with permission of the Guiding Stars Licensing Company.

government or food industry-wide policies or schemes in place in these countries. In the United States, for example, Mars and Kellogg's apply GDA labelling, but the sugar GDA percentage value is excluded because the Food and Drug Administration has not established a GDA for sugar consumption (Kellogg, 2008; Mars, 2008).

4.3.3 Nutrition scoring

Nutrition scoring is an approach taken by retailers in the United States (Fig. 4.4). The approach was initiated by a supermarket retailer, Hannafords. Their 'Guiding Stars' scheme labels foods with either one star ('good' nutritional value) or two ('better') or three ('best') (Hannafords, 2008). The foods score is estimated using a proprietary system based on the presence of vitamins, minerals, fibre and/or whole grains and trans and/or saturated fats, cholesterol, added sugars and added sodium. No stars appear on foods that do not fall into one of the three categories. Unlike the schemes adopted by European supermarkets, it is not limited to own-brand foods, but appears on the shelf in front of any foods that qualify, including fresh foods. As of October 2008, it covered 25 000 foods.

A second 'on-the-shelf' labelling scheme is the NuVal Nutritional Scoring System (Yale Griffin Center, 2008). Unlike the Guiding Stars system, it has been developed to apply to all foods, rather than just those defined as being nutritious. Developed completely independent of industry by a research centre, NuVal scores the nutrient density of food on a scale of 1 to 100; the higher the NuVal score, the higher the nutrition value. Each food value is determined by an algorithm which analyses the composition of 30 nutrient factors in each food, including fibre, folic acid, vitamins A, C, D, E, B12, B6, potassium, calcium, zinc, omega 3 fatty acids, carotenoids, magnesium, iron, saturated fat, trans fat, sodium, sugar, cholesterol, fat quality, protein quality, energy density and glycaemic load. The intention

was that NuVal scores be posted on shelf tags next to the product price, so consumers can see at-a-glance the nutritional value of the foods they buy. As of September 2008, three grocery store chains (representing over 100 stores in the Eastern and Midwestern United States) had committed to posting NuVal scores for more than a dozen food categories, including fresh protein, fresh produce, frozen vegetables, cereal, salty snacks, canned vegetables, bread, milk, cookies, crackers, eggs/egg products, drinks (shelf-stable and refrigerated), pasta and shortening/oils.

4.3.4 Calorie labelling

GDA labelling can involve the labelling of calories on the front of food packages, but other approaches to calorie labelling are also being experimented with, mainly in the United States. For example, one state and three large cities now require chain restaurants to label calories on their menus and menu boards. In addition, some chained restaurants in the United States are adopting calorie labelling on a voluntary basis. In October 2008, Yum Brands! (the US-based company that owns Pizza Hut, KFC and Taco Bell) announced that it would place calorie information on company owned outlets throughout the United States. The company also called for federal legislation to establish uniform guidelines based on those implemented in California (Yum! Brands, 2008).

4.4 Trends

Comparison with a benchmark review published in 2004 (Hawkes, 2004) shows that there have been key changes in the policy and regulatory environment around nutrition labelling over the past few years. There have been five key trends: greater government oversight, albeit slow to develop; increased adoption of mandatory labelling; greater number of voluntary approaches by the food industry and increased use of graphical nutrition labelling, though largely limited to western countries; the application of longer *and* shorter nutrients lists; and the increased labelling of trans fats. Each of these is now discussed in turn.

4.4.1 Greater government oversight, albeit slow to develop

More governments are now deciding to regulate the provision of nutrition information on food packages. Between 2003 and 2008, at least 12 countries introduced or implemented new regulations on nutrition labelling: the four MERCOSUR countries, Chile, Colombia, China, Ecuador, Egypt, Malaysia, Thailand, Tunisia, plus many accession countries in the EU and Hong Kong SAR. Other countries, such as Bolivia and Mexico, are in the process of developing regulations. In some cases, this reflects the introduction of legislation where there was no previous guidance in this area (e.g. Colombia, Egypt); in others, the change has involved adding the requirement to declare nutritional information when a nutrition/health claim is

made to existing requirements to label foods for special dietary uses (e.g. the Philippines), and in still others, the introduction of mandatory labelling on all or select packaged food (see next section).

This trend towards greater government oversight reflects the influence of two factors. The first is the Codex Alimentarius. As already discussed, the Codex Alimentarius guidelines recommend that nutrition labelling is required on foods with special dietary uses and that have a nutrition and/or health claim. The second is the development of policies to address the rising health burden created by unhealthy diets, obesity and diet-related chronic diseases. In a shift away from the narrower approach of providing labels only to provide proof of nutrition or health claims, nutrition labelling is increasingly being adopted as a policy designed to encourage healthy diets. This is leading to more countries adopting mandatory labelling and to more companies adopting graphical labelling on a voluntary basis.

4.4.2 Increased mandatory labelling

As already described, more countries now mandate nutrition facts panels on all packaged foods, or a select list of packaged foods. Since 2003, Canada, Chile, the four MERCOSUR countries, Malaysia, Thailand and Hong Kong SAR have all introduced regulations requiring mandatory labelling. This requirement has been introduced with the objective of providing greater guidance for consumers to make healthier food choices in the context of concerns about unhealthy diets and obesity. In Chile, for example, the policy was developed in the framework of their 'Global Strategy against Obesity' (EGO-CHILE) (Ministra de Salud Chile, 2006). In Hong Kong SAR, mandatory nutrition labelling was introduced on the basis that the 'provision of nutrition information on food labels is an important public health tool to promote a balanced diet' (Food and Health Bureau, 2008).

Mandatory labelling laws have not, however, been developed without controversy, and development has tended to be time-consuming and complex. In the MERCOSUR countries, negotiation about the development of mandatory labelling was protracted due to trade concerns and debate about the nutrient list (Hawkes, 2004). The mandatory labelling law introduced in Hong Kong SAR in 2008 took years to develop, and faced particular controversy about the burden it would impose on food manufacturers. In Canada, the development and implementation of mandatory labelling was reported to be 'complex, often chaotic and unpredictable' (Health Canada, 2008). A comprehensive analysis of the development of the Canadian law identified a series of barriers to the development of mandatory labelling: costs to industry (too high); proposed timelines for compliance (too short); the design of the label (considered too large); the food covered (fresh foods exempted) and nutrient list (inclusion of cholesterol) (Health Canada, 2008).

Still, the trend towards mandatory labelling looks set to continue. The proposal in the EU Directive to make nutrition labelling mandatory comes in light of

research that on average just 56% of packaged foods have nutrition labels (EAS, 2004). The proposal would require the mandatory declaration of energy, fat, saturated fats and carbohydrates, with specific reference to sugars and salt (EC, 2008). If implemented, the proposed Directive would increase the number of countries with mandatory labelling by two-thirds. Echoing another trend, the proposal would also require the nutrients to be listed in the principal field of vision (i.e. with a graphical format) (EC, 2008).

The Codex Alimentarius does not currently recommend mandatory nutrition labelling, but in 2008, the Codex Committee on Food Labelling began to discuss the possibility of updating existing guidelines to recommend mandatory labelling (see CAC, 2008b, 2009).

4.4.3 Increased use of graphical nutrition labelling, but largely limited to western countries

Nutrition facts tables are focused fundamentally on the *provision* of information to consumers. The aim of this approach is to provide consumers with information to enable them to choose nutritious foods, or to verify a nutrition claim made on the label. Graphical schemes, in contrast, all aim in some way to promote and encourage the choice of ‘healthier’ foods, or at least to contribute to initiatives with that aim. The development of graphical labelling thus represents an important shift from the *provision* of information to the *understanding* of that information. In the short time period between 2006 and 2008, traffic lights, GDAs, nutrition scoring, calorie labelling and menu labelling have essentially redefined the nature of nutrition labelling.

Still, graphical approaches are largely limited to western countries, where diet-related problems are higher up the political and public agenda. For example, the recent announcement of calorie labelling by Yum! Brands is restricted to their outlets in the United States. This indicates that voluntary labelling initiatives are in large part driven by market and regulatory pressures. In some cases, the development of graphic voluntary approaches aims to deflect the more discriminatory ‘traffic light’ approach. It is notable that in Thailand, in 2006 the Ministry of Health proposed a traffic light labelling scheme for certain snack foods, but the proposal was not pursued after opposition from the United States and some other countries (USTR, 2008). Instead, the government introduced a notification requiring the application of a nutrition facts table for these foods (Table 4.1).

4.4.4 Longer and shorter nutrient lists

As requirements for nutrition facts panels have increased, greater attention has been paid to listing nutrients in addition to the basic fats, protein and carbohydrates. As already discussed, many countries now require sodium, saturated fats, trans fats (see below), dietary fibre, sugar, cholesterol and a range of vitamins. The aim of including more is to provide consumers with as much information as possible.

However, in the light of evidence that consumers find too much information difficult to interpret, graphical approaches have favoured the inclusion of fewer nutrients, and focused instead on clearer interpretation of basic nutrients. It is notable that the proposed EC Directive would require energy plus five (fat, saturates, carbohydrates with specific reference to sugars and salt) on the basis that “in selecting the mandatory elements account has been taken of research indicating that consumers can feel overwhelmed by excessive information; the scientific advice about the most important nutrients bearing a relationship to the risk of development of obesity and non-communicable diseases; while avoiding excessive burden on food businesses, in particular small and medium size enterprises” (EC, 2008).

4.4.5 More labelling of trans fats

Trans fats must now be listed on the label in an increasing number of countries: Canada, the United States, the MERCOSUR countries, Hong Kong SAR (all mandatory labelling regulations), and Colombia (when a claim is made). The increasing inclusion of trans fats comes in light of evidence that there is a link between trans fats and heart disease. Other countries have, however, decided against compulsory declaration. In the EU, the listing of trans fats on the nutrient label is not required under the current Directive unless a nutrition claim is made about them. Under the proposed new Directive, the labelling of trans fats will remain voluntary (EC, 2008). In Australia, the mandatory law only requires that trans fatty acids are declared if a claim is made for fats (see section 4.2.2) and, as of 2008, FSANZ had no plans to require the mandatory declaration of trans fatty acids. This decision was made on the basis of a review which found that the contributions of trans fatty acids to energy intakes for Australians and New Zealanders are 0.6% and 0.7%, respectively, which is well below the goal of 1% proposed by the World Health Organization (FSANZ, 2006).

4.5 Conclusions

There is huge variation in the regulations, standards and guidelines on nutrition labelling around the world. In some countries, governments have not developed any form of policy or regulation; in others, governments have developed sophisticated mandatory schemes. Likewise, in some countries, the food industry has developed a range of graphical schemes; in others, there are no such schemes. In some countries, labelling is viewed as part of a policy package to address diet-related disease and their risk factors; in others, it is viewed more narrowly as a tool for preventing deceit.

This state of affairs is at once perplexing and understandable. Perplexing because the Codex Alimentarius sets standards and guidelines for governments to follow when developing national policies. Moreover, large amounts of packaged

foods are sold by global companies. Greater global consistency thus might be expected.

But this variation is also very understandable, owing to genuine differences between countries. Particularly relevant differences include:

- *The importance of packaged foods in the national diet.* Developed countries tend to consume a far higher proportion of packaged foods than developing countries (although the rate of increase of consumption is far higher in the developing world).
- *Nutritional contexts.* Differing nutrients may be lacking or excessive in national diets, and national recommended daily intakes may vary between countries.
- *Health burden.* The burden caused by unhealthy diets, obesity and other chronic disease risk factors is far higher in some countries than others, and thus likely to be more of a priority in some countries than others.
- *The amount of food exported or imported.* A country that exports a large amount of packaged foods has incentive to regulate nutrition labelling in order to meet the needs of export markets.

These differences affect the development of both government standards and voluntary industry guidelines, since the latter are strongly influenced by market and regulatory pressures. It would thus be expected that, despite the existence of Codex, governments and industry in different countries would develop differing approaches.

Still, as packaged foods become ever more widely marketed around the world with a plethora of nutrition labels, and as ‘health’ becomes a stronger selling point for the packaged foods industry, it is likely that the clear trend towards greater government and industry oversight of nutrition labelling will continue. The notion of what nutrition labelling is for is also shifting; it is no longer viewed simply as an information tool to ensure honest commerce, but as a health promotion tool and, for the global food industry, a marketing tool. The actions taken by the global food industry have in fact been the most notable change in the nutritional labelling environment in recent years.

As the use of and regulation of nutrition labels increases, there are two critical questions to consider: First: Is consistency preferable? Or does it not matter that there is inconsistency *between* countries? Does it matter that there are differences between government and food industry approaches *within* countries? Is this preferable in light of national differences and the need for market-driven innovation in product development? Second, as the problem of diet-related ill-health becomes ever greater worldwide, does the regulation of nutrition labelling actually help promote healthier diets? Or are consumers as confused as ever about what they should be eating for better health?

Governments – and industry – need to consider these questions as they develop and monitor policies on nutrition labelling. For into the future, it is predictable that nutrition labelling will become an inescapable part of the global food industry’s

way of doing business, and of government efforts to ensure that the consumer is fully informed about the foods they eat.

4.6 References

- AFGC (2008). *Daily Intake Guide Labelling Scheme*. Barton ACT: Australian Food and Grocery Council. Available at: <http://www.afgc.org.au/cmsDocuments/Daily%20Intake%20Guide%202008.pdf> [accessed July 2009].
- BUNDESMINISTERIN FÜR ERNÄHRUNG, LANDWIRTSCHAFT UND VERBRAUCHERSCHUTZ (2008). *Leitfadern für erweiterte Nährwertinformationen auf vorverpackten Lebensmitteln*. Bonn/Berlin.
- CAC (2008a). Agenda Item 6 CX/LAC 08/16/8-Add.1 October 2008. Joint FAO/WHO Food Standards Programme, FAO/WHO Coordinating Committee For Latin America and The Caribbean, 16th Session, Acapulco, Mexico, 10–14 November 2008. Nutritional Issues Within The Region, Comments In Response To CI 2008/16-Lac, Part D From Barbados, Brazil, Haiti and Jamaica. Rome: FAO/WHO.
- CAC (2008b). Codex Alimentarius Commission Thirty-first Session, Geneva, Switzerland, 30 June–4 July 2008, Report of the Thirty-sixth Session of the Codex Committee on Food Labelling, Ottawa, Canada, 28 April–2 May 2008. Joint FAO/WHO Food Standards Programme. Rome: FAO/WHO.
- CAC (2009) Codex Alimentarius Commission Thirty-second Session, Rome, Italy, 29 June–4 July 2009, Report of the Thirty-seventh Session of the Codex Committee on Food Labelling, Calgary, Canada, 4–8 May 2009. Joint FAO/WHO Food Standards Programme. Rome: FAO/WHO.
- CENTER FOR SCIENCE IN THE PUBLIC INTEREST (2008). Menu Labeling website. Available at: <http://www.cspinet.org/menulabeling/> [accessed July 2009].
- CIAA (2008). GDA nutrition labels gaining ground throughout Europe, survey shows. Press Release July 2 Brussels: Confederation of the Food and Drink Industries in the EU. Available at: http://www.ciaa.be/documents/press_releases/pr_20080702-2.pdf [accessed July 2009].
- CORONARY PREVENTION GROUP (1992). *Just Read the Label: Understanding Nutrition Information in Numeric, Verbal and Graphic Format*. London: HMSO.
- COWBURN G, STOCKLEY L (2003). *A systematic review of the research on consumer understanding of nutrition labelling*. Brussels: European Heart Network. Available at: <http://www.ehnheart.org/files/consumer%20nutrition-143058A.pdf> [accessed July 2009].
- EC (2008). Proposal for a regulation of the European Parliament and of the council on the provision of food information to consumers. Brussels, 30.1.2008, COM(2008) 40 final 2008/0028 (COD). Brussels: Commission of the European Communities.
- ELECTRONIC CODE OF FEDERAL REGULATIONS. Title 21: Food and Drugs, PART 101 – FOOD LABELING Subpart A – General Provisions. 101.9 Nutrition labeling of food Paragraph a(2). Available at: <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=563f0b6235da3f4c7912a64cbceec305&rgn=div8&view=text&node=21:2.0.1.1.2.1.1.6&idno=21> [accessed July 2009].
- EUROCOMMERCE (2007). EuroCommerce recommendation to its members to develop Nutritional Labelling on its own-brand products. Brussels. Statement available at: <http://www.eurocommerce.be/content.aspx?PageId=40733> [accessed July 2009].
- EAS (2004). The introduction of mandatory nutrition labelling in the European Union. Impact assessment undertaken for DG Sanco, European commission. Brussels: European Advisory Services Available at: http://ec.europa.eu/food/food/labellingnutrition/nutritionlabel/impact_assessment.pdf [accessed July 2009].
- FISCHER H (2008). State program labels healthy menu items. *Arizona Daily Star* March 25.
- FOOD AND HEALTH BUREAU (2008). Legislative Council Brief. Public Health And Municipal

- Services Ordinance (Cap. 132) Food And Drugs (Composition And Labelling) (Amendment: Requirements For Nutrition Labelling and Nutrition Claim) Regulation Hong Kong: Government of the Hong Kong SAR. Available at: http://www.fhb.gov.hk/download/press_and_publications/otherinfo/080215_labelling/e_legco_brief.pdf [accessed July 2009].
- FOOD SAFETY AND QUALITY DIVISION (2006). *Guide to Nutrition Labelling and Claims (as of April 2006)*. Putrajaya: Ministry of Health Malaysia.
- FSA (2006). Parliamentary Briefing March 2006: Front Of Pack Food Labelling Making Healthier Choices the Easy Choices. London: Food Standards Agency. Available at: <http://www.epolitix.com/Resources/epolitix/Forum%20Microsites/Food%20Standards%20AgencyFinal%20briefing%20March%202006%20Signposting%20Headed.pdf> [accessed July 2009].
- FSA (2007). Front-of-Pack Traffic Light Signpost Labelling. Technical Guidance. Issue 2. November. London: Food Standards Agency. Available at: <http://www.food.gov.uk/multimedia/pdfs/frontofpackguidance2.pdf> [accessed July 2009].
- FSANZ (2006). Review Report: Trans Fatty Acids. In: *The New Zealand and Australian Food Supply*. Canberra: Food Standards Australia New Zealand. Available at: http://www.foodstandards.gov.au/_srcfiles/Transfat%20report_CLEARED.pdf [accessed July 2009].
- FSANZ (2008). Standard 1.2.8. Nutrition Information Requirements. In: *Australia New Zealand Food Standards Code*. ANSTAT, 2008. Canberra: Food Standards Australia New Zealand. Available at: <http://www.foodstandards.gov.au/theocode/foodstandardscode.cfm> [accessed July 2009].
- HANNAFORDS (2008). *Guiding Stars Basics*. Portland, ME. Available at: http://www.hannaford.com/Contents/Healthy_Living/Guiding_Stars/faqs.shtml [accessed July 2009].
- HAWKES C (2004). *Nutrition labels and health claims: the global regulatory environment*. Geneva: WHO.
- HEALTH CANADA (2008). *CARMEN Pilot Canadian Case Study Final Report 'Stakeholder Convergence On Nutrition Labelling: Building Consensus On A Complex Issue'*. Government of Canada. Available at: http://www.phac-aspc.gc.ca/publicat/2009/carmen_report/pdf/CARMEN_report_final-eng.pdf [accessed July 2009].
- KELLOGG (2008). *Kellogg Cereal GDAs*. Available at: <http://www.kelloggnutrition.com/learn-about-labels/kellogg-gdas.html#chart> [accessed July 2009].
- LOBSTEIN T (2008). *Cereal Offences: A wake-up call on the marketing of unhealthy food to children*. London: Consumers International.
- MARS (2008). *Mars Nutrition: What are GDAs?* Available at: http://www.marshealthyliving.com/nutritional_info/gda.html [accessed July 2009].
- MERCOSUL (2008). MERCOSUL/GMC/RES No. 46/03. Regulamento Técnico Mercosul Sobre Rotulagem Nutricional De Alimentos Embalados. Monterndies: MERCOSUL. Available at: http://www.mercosur.int/msweb/portal%20intermediario/Normas/normas_web/Resoluciones/PT/Res_046_003_RTM%20Rotul%20Nutric%20Alim%20Embal_At%2004_03.PDF [accessed July 2009].
- MINISTRA DE SALUD, CHILE (2006). Entró en vigencia nuevo etiquetado nutricional de los alimentos. Noticias 06-11-2006. Santiago: Gobierno de Chile. Available at: http://www.ego-chile.cl/paginas/not_03.htm [accessed July 2009].
- MINISTRY OF HEALTH THAILAND (2007). Notification of Ministry of Public Health (No. 305) B.E.2550 (2007) Re. Labeling of some kinds of ready-to-eat foods. Bangkok. Available at: http://www.qmaker.com/fda/new/images/cms/top_upload/1224646040_Notification305.pdf [accessed July 2009].
- USTR (2008). 008 National Trade Estimate Report on Foreign Trade Barriers: Thailand. Washington DC: United States Trade Representative. Available at: <http://www.ustr.gov/about-us/press-office/reports-and-publications/archives/2008/2008-national-trade-estimate-report-fo-0> [accessed July 2009].

YALE GRIFFIN PREVENTION RESEARCH CENTER (2008). NuVal™ Nutritional Scoring System Fact Sheet. Derby, CT.

YUM ! BRANDS (2008). Yum ! Brands announced US divisions will place calories on all company restaurant boards. Press Release October 1. Louisville, KY. Available at: <http://www.franchising.com/pressreleases/8997/> [accessed July 2009].