Labelling in restaurants: will it make a difference?

L. C. Savage* and R. K. Johnson†

*Department of Nutrition and Food Sciences, The University of Vermont, Burlington, Vermont, USA
†College of Agriculture and Life Sciences, The University of Vermont, Burlington, Vermont, USA

Summary

The quest to solve the obesity epidemic in the United States has long been the centre of debate for health professionals, consumer and health advocates, scientists and politicians. While numerous suggestions have been made from these respective groups, there has been a steady increase, such that more than 64% of the US population are now classified as overweight or obese. The introduction of the Nutrition Facts label through the Nutrition Labelling and Education Act (NLEA) of 1990 has improved overall dietary quality, based on lower fat intakes and higher consumption of fruit and vegetables, in the 70–85% of the American population who use the label at least sometimes. More recently, however, concerns have been raised about the exemption of restaurants from the NLEA. The proportion of US consumers’ food budget spent on food for consumption outside the home has increased from 26% in 1976 to 46% in 2004. It is also estimated that one third of a person’s daily calories now come from food purchased for consumption outside the home. The United States Department of Agriculture and the US Department of Health and Human Services have jointly produced the 2005 Dietary Guidelines for Americans (DGAs) to provide evidence-based nutrition recommendations to the American public. Included are recommendations to limit the intake of sodium, cholesterol, saturates, trans fatty acids, alcohol and added sugars, to increase the intake of low-fat dairy products, fruit and vegetables, and to maintain energy balance. The food found in restaurants is abundant in nutrients recommended to be consumed in moderation, low in those that are recommended to be increased and higher in calories, when compared with a home-prepared meal. Given the consistent rise in obesity in the USA, the lack of food labelling in restaurants, the contrast between the nutrient recommendations of the DGAs and the nutrients found in restaurant food, and the increase in consumer spending on food purchased for consumption outside the home, suggestions now focus on passing legislation mandating food labelling in restaurants. Given the significance of such legislation to the US restaurant industry, this article highlights key considerations, as well as barriers, to restaurant food labelling. This article also emphasises the importance of conducting research to explore the impact of restaurant food labelling, prior to passing new legislation, as no studies have looked at the effect that this may have on restaurant patron behaviour. The importance of conducting research on restaurant labelling, prior to passing legislation, may be key to its success.

Keywords: food labels, legislation, Nutrition Labelling and Education Act, obesity, restaurants

Correspondence: Rachel K. Johnson, Professor of Nutrition, Dean, College of Agriculture and Life Sciences, 108 Morrill Hall, The University of Vermont, Burlington, VT 05401 USA.
E-mail: rachel.johnson@uvm.edu
Introduction

The obesity epidemic that has overtaken the United States in recent decades is constantly in the limelight for health professionals, consumer and health advocates, and politicians. Obesity accounts for approximately 400 000 deaths annually in the USA (Mokdad et al. 2004) and costs the US economy an estimated 117 billion dollars per year (DHHS 2003). The health implications associated with obesity and overweight are well-documented, most notably the negative impact on heart health, type 2 diabetes and certain types of cancers. Nevertheless, more than 64% of the US population are obese or overweight (Flegal et al. 2002; DHHS 2003).

The gravity of the situation has been increasingly brought to the public’s attention. The US Surgeon General delivered a Call to Action aimed at decreasing the incidence of overweight and obesity in 2001 (DHHS 2001). The 2005 Dietary Guidelines for Americans (DGAs) were published with specific nutrient recommendations and guidelines for the maintenance of energy balance (USDA 2005). The US Food Pyramid has been updated to ‘MyPyramid’ and is based on the 2005 DGAs (USDA 2005). The main changes made to MyPyramid are the tailored recommendations, taking age, sex and physical activity levels into consideration to provide people with specific nutrient and energy recommendations, rather than simpler, more general recommendations targeting the American population as a whole.

The implementation of food labelling, brought about by the Nutrition Labelling and Education Act (NLEA) of 1990 (FDA 1990), revolutionised the nutritional information available to American consumers. Studies indicate that, on average, 70–85% of the American adolescent, college and adult population read food labels at least sometimes (Marietta et al. 1999; Byrd-Bredbenner 2000; Burros 2004; Huang et al. 2004; O’Dougherty et al. 2006). Studies also indicate that people who use food labels typically have superior dietary quality, based on lower intakes of fat, and higher intakes of fruit and vegetables, when compared with those who do not use food labels (Kreuter et al. 1997; Kristal et al. 1998; Neuhouser et al. 1999; Perez-Escamilla & Haldeman 2002; Huang et al. 2004). While the positive impact that food labels have on the diets of those who use them has been demonstrated, there are several areas that do not fall under the jurisdiction of the NLEA. For example, restaurants are exempted from the NLEA. This is a cause for concern, due to the increased number of meals Americans currently purchase in food establishments compared with 1976.

Consumers’ spending on food purchased for consumption outside of the home has increased from approximately 26% of their total food budget in 1976 to 46% in 2004 (Lin et al. 1999; Nestle & Jacobson 2000; Young & Nestle 2002; Kant & Graubard 2004; Wootan & Osborn 2006). The average American consumes approximately one-third of their calories from food purchased for consumption outside the home (Lin et al. 1999; Nestle & Jacobson 2000; Wootan & Osborn 2006). Eating in food service establishments can be problematic for numerous reasons. The specific nutrients and categories of foods that are outlined as causing problems in the 2005 DGAs are the nutrients and foods that are abundant in restaurant foods, such as sodium, cholesterol, total fat, saturates and trans fatty acids (Lin et al. 1999; McCrory et al. 1999; Nestle & Jacobson 2000; Kant & Graubard 2004; USDA/DHHS 2005; Wootan & Osborn 2006). Moderation in the consumption of these nutrients is recommended, and yet it has been demonstrated that these are the nutrients typically over-consumed by the American public (Lin et al. 1999; McCrory et al. 1999; Nestle & Jacobson 2000; Kant & Graubard 2004; Wootan & Osborn 2006). Similarly, foods and nutrients that are typically under-consumed and that should be increased, such as fruit and vegetables, fibre and calcium, are the nutrients least found in restaurant foods (Lin et al. 1999; McCrory et al. 1999; Nestle & Jacobson 2000; Wootan & Osborn 2006).

Furthermore, research has documented a positive association between eating out and bodyweight/percent-age body fat (Wootan & Osborn 2006). This has been attributed to the higher energy content of restaurant foods when compared with home-prepared meals (Young & Nestle 2002; Kant & Graubard 2004). The cause of this is unclear; however, it has been linked to the accessibility of energy-dense foods and/or larger portion sizes in restaurants (Young & Nestle 2002; Kant & Graubard 2004).

Currently, nutritional information may be provided in restaurants on a voluntary basis; however, only 54% of the 300 largest chain restaurants in the United States provide such information, with most small chain restaurants and smaller establishments providing little or no nutritional information (Wootan & Osborn 2006). Furthermore, of the restaurants that make nutritional information available to consumers, 86% do so through the Internet, making it somewhat inconvenient for the consumer to access (Wootan & Osborn 2006). This method of conveying nutritional information does not enable consumers to make food choices at the point of sale based on the nutritional content of the food they are selecting. In contrast, making the information available
at the point of sale allows the consumer to compare food choices on the spot and make a more informed decision, as one does in the supermarket or grocery store when comparing products.

The US Food and Drug Administration (FDA) is the government agency that provides federal oversight of the current food labelling system. Given the emphasis placed on tackling the obesity epidemic by the US government, the FDA has been proactive in developing recommendations to help decrease the incidence of overweight and obesity in the USA. In 2003, the FDA formed the Obesity Working Group (OWG) in an attempt to provide evidence-based recommendations for the prevention of overweight and obesity. In 2004, the OWG published ‘Counting Calories’, a report that targeted, among other areas, the restaurant industry and its impact on obesity (FDA/CFSAN 2004). The OWG recommended that the FDA became more proactive and included restaurants in labelling requirements. However, making this change would require legislation passed by the US Congress and signed by the President. There are several considerations for the restaurant industry if food labels are mandated. These include the format of the label, the cost involved in its production, the need for nutrition professionals to be involved in the process, and the impact on restaurant sales. In order to address some of these issues, the OWG and the FDA recommend that more research be conducted to answer some of these questions.

The OWG and the FDA are not alone in their recommendations for labelling and nutritional information to be available in restaurants. Numerous health professionals, nutrition researchers, government agencies and politicians, respectively, have identified the need to implement labelling in food establishments. Despite the growing push for such legislation to be developed, and more importantly, the need for research in the area that has been identified, there has been no research demonstrating the impact that food labelling will have on consumer behaviour with respect to eating out. It has yet to be determined whether food labelling in the restaurant environment will lead to a change in the eating behaviour of US patrons. Furthermore, it is unknown whether restaurant labelling will have any impact on the incidence of obesity and overweight, the underlying reason behind the implementation of restaurant food labelling.

The current Nutrition Labelling and Education Act (NLEA)

The NLEA was passed by the US Congress in 1990 (FDA 1990). However, it was not until 1993 that food labels were required on food packaging. The US food label can be broken down into three parts: the nutritional information or nutrition facts panel, the ingredient list, and the nutrition or health claims. Current NLEA requirements stipulate that 15 items appear on the nutrition facts panel of food labels at all times, and that three additional nutrients appear in almost all cases (FDA 1990). The mandatory items include: serving size, servings per container, calories, calories from fat, the per cent daily value of each nutrient (a term derived from the reference daily intakes to aid consumers in making a healthy choice by showing them the percentage of the nutrient that is found in the food), total fat, trans fatty acids (trans fat), cholesterol (unless there is less than 2 mg per serving), sodium, total carbohydrate, protein, vitamin A, vitamin C, iron, and calcium (FDA 1990) (see Fig. 1). Originally, trans fatty acids were not required on the FDA label. However, given the research findings demonstrating the negative health effects of trans fatty acids, they were added to the list of required nutrients in January of 2006 (FDA 2003). The amount of dietary fibre and total sugars must be included if there

### Nutrition Facts

**Serving Size 1 cup (228g)**

| Servings Per Container | 2 |

<table>
<thead>
<tr>
<th>Amount Per Serving</th>
<th>Calories 250</th>
<th>Calories from Fat 110</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Daily Value*</td>
<td>18%</td>
<td>15%</td>
</tr>
<tr>
<td>Total Fat 12g</td>
<td>18%</td>
<td>15%</td>
</tr>
<tr>
<td>Saturated Fat 3g</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>Trans Fat 3g</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>Cholesterol 30mg</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Sodium 470mg</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Total Carbohydrate 31g</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Dietary Fiber 0g</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Sugars 5g</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Protein 5g</td>
<td>4%</td>
<td></td>
</tr>
</tbody>
</table>

| 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 be higher or lower depending on your calorie needs.

<table>
<thead>
<tr>
<th>Calories:</th>
<th>2,000</th>
<th>2,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fat</td>
<td>Less than 65g</td>
<td>80g</td>
</tr>
<tr>
<td>Saturated Fat</td>
<td>Less than 20g</td>
<td>25g</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>Less than 300mg</td>
<td>300mg</td>
</tr>
<tr>
<td>Sodium</td>
<td>Less than 2,400mg</td>
<td>2,400mg</td>
</tr>
<tr>
<td>Total Carbohydrate</td>
<td>300g</td>
<td>375g</td>
</tr>
<tr>
<td>Dietary Fiber</td>
<td>25g</td>
<td>30g</td>
</tr>
</tbody>
</table>

**Figure 1** Nutrition facts. Source: FDA/CFSAN (2004).
is at least 1 g per serving of each nutrient, respectively, and the grams of saturated fat must be included if there is more than 0.5 g per serving (FDA 1990). All other nutrients may be put on the label, in accordance with the FDA format, on a voluntary basis. Nutrition and health claims must follow definitions provided by the FDA and can only be made when the claim can be supported by evidence. Furthermore, if there is a health claim made, then the nutrient that is referred to in the claim must appear on the label.

The NLEA makes several exemptions for food providers such that they are not required to provide food labels. Included in the exemptions are foods served or sold in restaurants, and foods that are served and sold for immediate consumption, e.g. in cafeterias, bakeries and delis. Although other exemptions exist, these two in particular permit restaurants to provide labels on a voluntary basis only. Despite the fact that those establishments exempted from labelling must support any nutrition or health claims with evidence, they are still not required to conduct any nutrient analysis of the product in question (FDA/CFSAN 2004). They are only required to provide the nutritional information specific to the nutrient involved in their nutrition or health claim, with respect to the FDA definition.

Given the increase in consumers’ spending on restaurant food, it would be logical to conclude that the majority of the food purchased for consumption outside of the home would not include a label. Because research with respect to food labels on packaged foods has demonstrated a positive effect on the overall dietary quality in people who make use of food labels, it has been assumed that the same would apply if labelling was implemented in restaurants. Furthermore, given the nutrient content of foods sold in restaurants, and the health implications aforementioned of frequent dining in restaurants, health professionals, consumer and health advocates, and politicians have concluded that legislation should be passed to include mandatory food labelling in restaurants. US restaurant patrons might be more informed about what they are eating and thus their overall dietary quality would potentially improve, possibly mirroring the positive changes seen with the use of existing food labels.

2005 Dietary Guidelines for Americans (DGAs)

The 2005 DGAs were published jointly by the US Department of Agriculture and the US Department of Health and Human Services in an effort to provide Americans with evidence-based dietary advice. Given the wide array of organisations and sources that provide nutritional advice to the public, the US government recognised the need to voice their position on the subject. The 2005 DGAs contain many recommendations that are intended to moderate the intake of nutrients that are typically over-consumed and to increase nutrients that are typically under-consumed. Overweight and obesity, at a very fundamental level, can be attributed to a disruption in energy balance. Additionally, the intake of certain nutrients increases the risk for many chronic diseases, while the intake of other nutrients decreases the risk of certain diseases. Most notably, these diseases include hypertension, hypercholesterolaemia, cardiovascular diseases, type 2 diabetes and some types of cancer. These are also some of the most common chronic diseases associated with obesity and overweight.

The DGAs highlight the importance of energy balance by promoting the consumption of foods and beverages in amounts that meet an individual’s estimated total energy expenditure (USDA/DHHS 2005). Specific recommendations emphasise the need to limit the intake of sodium, cholesterol, saturates, trans fatty acids, alcohol and added sugars (USDA/DHHS 2005). In contrast, it is recommended that the intake of fruit, vegetables and low-fat dairy products should be increased. As mentioned previously, restaurant food is high in the nutrients recommended to be consumed in moderation, high in calories, and low in the nutrients recommended to be increased in the diet.

Barriers to food labelling in restaurants

Implementing food labelling in restaurants poses problems on several levels for both the restaurant owner and the consumer. The first obstacles cited by restaurant owners are those that involve the menu (FDA/CFSAN 2004). There are several issues with respect to the menu, including variation, space and flexibility (FDA/CFSAN 2004). In many restaurants, changes to the menu occur frequently. Whether the items themselves change, or consumers request that a change be made to their order (e.g. extra sauce, no cheese, no mushrooms, extra bacon), there is a certain level of variability that cannot be accounted for. It is estimated that 70% of restaurant patrons request a menu modification for their food selection (Riehle 2003). There is also often a lack of standardised recipes in some places, making it difficult to determine nutrient content. Furthermore, due to marketing tactics, menu items change frequently and are concurrent with promotions (Wootan & Osborn 2006).

The requirement of food labelling would restrict this type of activity. The current NLEA label would require
a large amount of space on a menu or menu board. Additionally, the best format for a restaurant food label is debatable. It would be nearly impossible to include all the current NLEA requirements on a table menu or menu board. Restaurant owners who do not currently display labels have voiced this as being their primary concern with respect to labelling implementation (FDA/CFSAN 2004).

Another obstacle is the cost involved in producing food labels. Previously, a food label designed to meet NLEA requirements has been estimated to cost 500–655 US dollars (Boger 1995; FDA/CFSAN 2004). Given the input of nutrient values into software systems, the analysis of a food product has become much simpler and can now be undertaken without always requiring chemical nutrient analysis. Thus, the cost of food labelling has decreased and is now estimated to be 220 US dollars per label (Wootan & Osborn 2006). Due to some of the menu issues mentioned previously, it seems that having all food items on the menu analysed, based on current NLEA labelling requirements, would represent a substantial cost to restaurants. This barrier to food labelling was found to be more of an issue in restaurants that have not yet provided nutritional information on a voluntary basis (FDA/CFSAN 2004). American restaurant companies, especially larger chain restaurants, who have begun to analyse their products for the provision of nutritional information, have stated that once the cost of food labelling is incorporated into their budget and proper allocations have been made, this cost becomes less of an issue (FDA/CFSAN 2004).

A final barrier to labelling in the restaurant milieu involves employee training. The restaurant industry sees a large turnover of employees, and thus constant employee training is needed (FDA/CFSAN 2004). The implementation of food labelling in restaurants would require staff to have some knowledge of nutrition in order to answer any questions that may arise from customers. Restaurants implementing labelling would also need the advice of nutrition professionals to guide them on the development of healthier food choices and the labelling process itself. Furthermore, nutrition education for restaurant staff needs to be undertaken by a qualified professional and, therefore, the cost of conducting this training would increase (FDA/CFSAN 2004). A high employee turnover rate and a high cost of training would again increase the cost involved in implementing labelling in restaurants. Moreover, the demand for nutrition professionals would increase sharply, as dietitians and nutritionists would be needed to provide education to the restaurant industry, should labelling become mandatory (FDA/CFSAN 2004).

The restaurant industry

The US restaurant industry has recognised the increase in frequency of meals consumed outside of the home. The National Restaurant Association (NRA) conducts periodic surveys (every 4–6 years) of various components of the restaurant industry as a whole, and reported a 17% increase in the number of weekly meals consumed outside of the home from 1985 to 2000 (NRA 2001). The NRA also reported an increase in the amount of food dollars spent on meals bought for consumption outside of the home, and estimated that 46% of consumers’ food budget goes towards purchasing these meals (NRA 2004). The US restaurant industry has responded to increased pressure for legislation obliging restaurants to provide nutritional information at the point of sale, by voicing concerns about menu obstacles (Riehle 2003). Nevertheless, research looking at nutritional information in restaurants indicates that labelling in restaurants is an attainable goal (Wootan & Osborn 2006).

Another concern raised by the restaurant industry is the perceived decrease in sales that might occur if food labelling was introduced. This was illustrated when the steakhouse style restaurant chain Ruby Tuesdays voluntarily provided food labels for their menu items (Fields & Sherman 2004). Their sales dropped markedly and, as a result, the labels were quickly removed from menus (Clark 2005). Conversely, competitor Outback Steakhouse saw a rise in their sales during the labelling period at Ruby Tuesdays. It could thus be speculated that the American public will not necessarily change their eating habits, but instead would prefer not to be confronted with nutritional information about what they are eating when choosing from a menu. In general, two-thirds of restaurants did not consider that labelling in their establishments would affect their sales (FDA/CFSAN 2004). However, of those who did consider it would affect sales, the majority believed that the effects would be negative (FDA/CFSAN 2004).

Conclusion

The amount of money spent on meals consumed outside the home has markedly increased in the USA. Numerous factors contribute to this, including the increased demand for convenience, the availability of food on-the-go, multiple-career households, as well as food and restaurant marketing tactics (Nestle & Jacobson 2000; Young & Nestle 2002; Kant & Graubard 2004). With an increase in eating outside of the home, there has been
an increase in intakes of some nutrients and a simultaneous decrease in others. Notably, increased amounts of total fat, trans fatty acids, saturates, total calories and sodium can be found in meals eaten outside of the home, while decreased intakes of fruit, vegetables, calcium and fibre are the norm (Lin et al. 1999; McCrory et al. 1999; Nestle & Jacobson 2000; Kant & Graubard 2004; Wootan & Osborn 2006).

Current US government nutritional recommendations have been modified to deliver a more tailored message to the public, identifying specific nutrients that need to be consumed in moderation, limited or increased. The nutrients recommended to be increased in the daily diet are those that tend to be lacking in restaurant food, while those that are recommended to be limited or eaten in moderation are the nutrients that are most abundant in restaurant-style food. Given the increase in overweight and obesity over the past few decades, there has been a quest to slow down this trend. While the US government and various other organisations have made numerous efforts to try and accomplish this, there has been no progress made in decreasing the proportion of the population that are overweight and obese in the USA. Numerous groups, including government agencies and professional associations, lobbyists, health professionals and researchers, have made several attempts to solve this persistent problem.

The US Surgeon General, the Institute of Medicine, researchers, government agencies, professional associations, health professionals, lobbyists and the American public have all called for legislation to make food labelling at the point of sale in restaurants mandatory (Almanza et al. 1997; Nestle & Jacobson 2000; FDA/CFSAN 2004; Hayne et al. 2004; O’Dougherty et al. 2006; Wootan & Osborn 2006). More and more advocates of restaurant labelling, including a growing number of state government officials, nutrition researchers, consumer advocates and professional organisations, are trying to achieve such legislation. However, there is a key point in this push that has not yet been addressed: will food labels in restaurants make a difference to consumer behaviour with respect to food choice? The answer is unclear, as there have been few published studies that have asked this question. A recent article suggests that 44–57% of college students would not be likely to look at food labels in restaurants (Krukowski et al. 2006). This same study found that 27–36% of the population studied could not accurately estimate their daily caloric needs. Although this may not be representative of the American population as a whole, it does raise concerns as to what impact, if any, amendments to include restaurants in the NLEA would have.

Many other questions with respect to food labelling in restaurants would arise in the event that they were included in the NLEA. These include the format that the label should take, the nutrients that should be included or not included, a comparison between food label use on packaged foods and foods eaten in restaurants, and what the impact would be on the general public in terms of their health. Therefore, many questions need to be addressed before an amendment to the NLEA is passed to include restaurants. Will food labelling in restaurants meet the ultimate goal of changing the way the public eats, resulting in healthier diets, healthier weights and a decrease in the incidence of chronic diseases? This key question is one that remains unanswered.

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