



Brief report

Supersize the label: The effect of prominent calorie labeling on sales



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ABSTRACT

Objectives: Calorie labeling has been suggested as an antiobesity measure; however, evidence on its effects is scarce and formatting guidance not well defined. The aim of this study was to test the effects of prominent calorie labeling on sales of the labeled items.

Methods: Prominent calorie labels were posted in front of two popular items for a period of 1 mo. Sales were recorded for 2 mo consecutively, before and during labeling.

Results: Muffins sales (the higher-calorie item) fell by 30%, whereas sales of scones rose by 4%, a significant difference ($\chi^2 = 10.258$; $P = 0.0014$).

Conclusions: Calorie labeling is effective when noticed. Wider adoption of calorie labeling for all food businesses and strengthening legislation with formatting guidelines should be the next step in public health policy.

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Introduction

Obesity prevalence has been increasing as the number of meals eaten outside the home has increased [1]. Both chain and independent restaurants offer food that is high in calories, fat, and sodium [2,3]. Calorie labeling has been proposed as an obesity-prevention measure. It is now compulsory for larger chains under the US Affordable Care Act (ACA) [4], and voluntary under the UK Responsibility Deal [5]. Current evidence shows that calorie labeling, overall, does not lead to a reduction in calories bought or chosen. However, the labels used to date have been small and noticed only by 30% of consumers. Those consumers who notice calorie labels choose meals and snacks with 124 fewer kcal per purchase [6]. Guidance from the ACA on how to format calorie labeling state that the caloric value should be the same font size as the price or the food name, whichever is the smallest. The present study examined the effect of prominent calorie labels on sales of specific popular food items.

Calorie labeling in catering outlets: A natural experiment

Prominent, colorful, laminated calorie labels, size 29 × 26 cm (Fig. 1) were posted for two popular sweet coffeehouse food items with large calorie differences (scone = 145–160 kcal, muffin = 492–576 kcal). The items were displayed in adjacent baskets at the point of sale in an independent cafe in spring 2014. The independent cafe was based within the library of a large university in the United Kingdom. Customers included university students and staff members. Customers had direct access to the items that were calorie labeled, whereas other food items on sale were placed at the back of the cafe and customers had to ask the staff to get them. Calorie labels were posted for 4 wk, directly in front of those items. Chi-square tests were used (IBM SPSS Statistics for Windows, version 21, Armonk, NY, USA) to test for differences in sales data, provided by the caterers, for 4-wk periods before and during calorie labeling, in March and April 2014.

During the April 4-wk calorie-labeling period, which included the Easter holiday break, total sales of all food items fell by 23% (Table 1). Sales of muffins and scones, combined, fell similarly by 24%. However, when analyzed separately, sales of muffins (the higher-calorie item) fell by 30%, whereas sales of scones rose by 4%, a significant difference ($\chi^2 = 10.258$; $P = 0.0014$).

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Table 1

Monthly sales before and during the calorie-labeling period and percentage of change*

	Before Calorie labeling	During Calorie labeling	Change (%)
All sweet food items	5941	4564	−23
Muffins and scones combined	863	654	−24
Muffins	704	489 [†]	−30
Scones	159	165 [†]	+4

* Data collected in 2014 and analyzed in 2014.

[†] Muffins versus scones $\chi^2 = 10.258$; $P = 0.0014$.

Effect of supersizing the calorie-labeling label

Given the epidemic status of obesity, there is urgent need for effective antiobesity measures. Calorie labeling received strong opposition from restaurant associations when first suggested as a tool to fight obesity. The present study provides evidence that prominent calorie labeling can nudge customers toward less calorific choices between comparable items. Total sales of all food items fell 23 to 24% from March to April. Even if it is tempting to suggest that the present calorie-labeling activity had raised awareness and prompted reductions in all foods perceived as fattening, the Easter break that occurred during the intervention also might have been a reason for observing a total reduction of 23 to 24% of the sales of all food items in the cafe. However, when we analyzed separately the calorie-labeled items, there was clearly an effect from calorie labeling, with a striking 30% downward shift in sales of the higher-calorie muffins; whereas sales of the lower-calorie scones were essentially unchanged. This finding adds to results from a controlled trial that reported a 30% reduction in sales of high-calorie items with similarly prominent calorie labels in intervention sites [7]. The key appears to be prominence and visibility of labels. Currently, where calorie labeling is required, the information must be presented in the same font size as the price. We used labels with a font size almost 10-fold larger than is currently used in chain restaurants, and in a very prominent position adjacent to the items. This principle also pertains to generating behavioral change among smokers. The cigarette pack is the most cost-effective communication medium for health messages, provided that a large font, covering >30% of the package area is used [8].

The results from the present study do not reveal whether choices to avoid higher-calorie muffins, in favor of scones, were

all made by customers with weight problems. However with 60 to 70% of all adults overweight or obese in the United States and Europe, it seems reasonable to propose that this very low-cost intervention should be applied widely as part of antiobesity strategies [9] and with catering facilities to overcome any obstacles that might discourage them from posting calorie information and tackle any inequalities [10,11]. Calorie labeling seems to be effective when the labels are noticed. Wider adoption of calorie labeling for all food businesses and strengthening legislation with guidelines on formatting should be the next step in public health policy.

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Supplementary data

Supplementary data related to this article can be found at <http://dx.doi.org/10.1016/j.nut.2016.11.006>.

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