The availability and accessibility of nutrition information in fast food outlets in five states post-menu labelling legislation in New South Wales

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Most fast foods are high in energy, saturated fat, sugar and sodium.1 Consumption of fast food is increasing in Australia.2 This is concerning, as frequent consumption of fast food is linked to weight gain3 and increased risk of chronic disease.4,5

Energy (kilojoule) menu labelling has been proposed as a way of increasing customers’ access to nutrition information,6 with research showing that fast food menu labelling may help customers make informed decisions.7 Evidence shows that including energy values on fast food menus reduces the energy content of purchases, irrespective of various customer demographics including age, education level, and gender.8

At the time of this study (November 2012), New South Wales (NSW) had implemented legislation for menu labelling nine months previously, following a 12-month phase-in period, and South Australia (SA) had announced that legislation was to be introduced in 2013. Under these NSW laws, the energy content (kilojoules per serve) of menu items and meals must appear on menus and menu boards for all menu items that have a price or an identifying label, as well as the reference statement ‘the average adult daily energy intake is 8,700kJ’.9 The aim of the NSW menu labelling legislation is to give customers information to increase knowledge and facilitate the purchase of healthier meals.10 However, the legislation does not require more detailed nutrition information, such as values for the saturated fat, sugar and sodium contents of menu items, to be provided. The public generally cannot estimate the nutrient content of fast foods,11 so it has been suggested that values for these nutrients should be available in-store, especially as they were often provided before menu labelling legislation was mandatory.4 Such information would particularly benefit customers trying to limit specific nutrients, e.g. those with hypertension who may need to limit their intake of sodium. Providing additional information on other nutrients, such as saturated fat, has been shown to reduce consumers’ intentions to purchase fast food products high in these nutrients.7

To the authors’ knowledge, no research has investigated changes in the provision or accessibility of in-store nutrition information after the introduction of menu labelling legislation in fast food chains anywhere in the world. The purpose of the current study was to explore the availability and accessibility of nutrition information, including both energy values and nutrient values, in five states post-NSW menu labelling legislation, in states with and without menu labelling legislation. Further, the study aimed to determine whether the availability and accessibility had changed compared with data collected pre-menu labelling legislation in NSW.

Abstract

Objectives: 1) Explore the availability and accessibility of fast food energy and nutrient information post-NSW menu labelling legislation in states with and without menu labelling legislation. Determine whether availability and accessibility differed compared with pre-menu labelling legislation in NSW.

Methods: We visited 210 outlets of the five largest fast food chains in five Australian states to observe the availability and accessibility of energy and nutrient information. Results were compared with 197 outlets surveyed pre-menu labelling.

Results: Most outlets (95%) provided energy values, half provided nutrient values and 3% provided information for all menu items. The total amount of information available increased post-NSW menu labelling implementation (473 versus 178 pre-implementation, p<0.001); however, fewer outlets provided nutrient values (26% versus 97% pre-implementation, p<0.001).

Conclusions: Fast food chains surveyed had voluntarily introduced menu labelling nationally. However, more nutrient information was available in-store in 2010, showing that fast food chains are able to provide comprehensive nutrition information, yet they have stopped doing so.

Implications: Menu labelling legislation should compel fast food chains to provide accessible nutrition information including nutrient values in addition to energy for all menu items in-store. Additionally, public education campaigns are needed to ensure customers can use menu labelling.

Key words: fast food, menu labelling, nutrition information, food industry, consumers
Methods
2012 in-store survey
Sample
This study builds on a 2010 study using similar observational methods. Nutrition information provided in-store was observed at outlets of the five fast food chains with the largest numbers of outlets in Australia: McDonald’s, KFC, Hungry Jacks’, Red Rooster and Subway.

Data were collected from 210 outlets: 130 in NSW, where menu labelling is legislated, and 80 in states where legislation had not been implemented at the time of the study, including: Queensland (QLD), n=29; Victoria (VIC), n=22; South Australia (SA), n=21; and Western Australia (WA), n=8. Surveyed outlets were selected to include the outlets from the 2010 study, with outlets from a range of socioeconomic status (SES) areas, defined by the Index of Relative Socio-economic Advantage and Disadvantage (IRSAD),12 and rural and remote locations, defined by Accessibility/Remoteness Index of Australia (ARIA+).13 Both stand-alone and shopping centre outlets were included. Fieldwork occurred during two weeks in November and December 2012, exactly two years after the previous study7 and 11 months after menu labelling became mandatory in NSW.7

Definitions
Nutrition information was defined as a physical object available in-store that contains details of the nutrient or energy (kilojoule) contents of menu items. Examples included kilojoule values on menus (menu labelling), brochures or posters. This was divided into two categories: 1) energy values, including menu labelling and posters only listing kilojoule content; and 2) nutrient values for nutrients such as saturated fat, sodium or sugar in addition to kilojoulues. The total objects of nutrition information, including energy values and nutrient values available in each outlet, were noted and referred to as ‘total information’. For example, if a brochure, menu labelling and a poster with energy values were found in one outlet, the total information for that outlet was three.

Menu items were categorised into: regular meals; children’s meals; family meals (meals for two or more people); mains (e.g. burgers or chicken); sides (e.g. fries); snacks (e.g. cookies); desserts; drinks; breakfast; and individual components (e.g. condiments or cheese).

Procedure
Surveyors (n=18) trained by nutrition professionals visited the outlets to collect data. Surveyors observed and recorded all possible nutrition information available in-store. Surveyors asked fast food outlet staff if there was any additional nutrition information available. Information on menu item packaging was not collected because it is not available before purchase.

Surveyors collected data using a standardised datasheet and protocol based on the 2010 study.14 Two surveyors piloted the datasheet and protocol before the survey to ensure the tool reflected the study’s aims. To check inter-rater reliability, two surveyors independently collected data at 24 outlets (12% of the sample) concurrently, and compared their results. This achieved 100% consistency. Data were cross-checked by two authors (LW and MH) to ensure accuracy.

All objects of nutrition information observed were assessed to identify the nutrients listed and the food categories included. Surveyors also observed the accessibility of the object, deeming it as accessible if it was available without asking staff.

Statistical analysis
All data analysis was conducted using SPSS v19 for Windows (SPSS Inc., Chicago, IL, USA). Two-sided p-values of ≤0.05 were considered statistically significant. Calculations included the proportion of: outlets with any nutrition information available; outlets with nutrient values available; and the information that was deemed accessible. Pearson’s chi-square tests were used to compare the availability of nutrition information by chain, SES, remoteness, state, and the presence of menu labelling legislation. For geographic comparisons, regional and remote areas were compared with metropolitan areas.

Comparative analysis
Results from the 2012 survey were compared to results collected in 2010 before the implementation of menu labelling. As some outlets had closed since 2010, only outlets that were common to both the 2010 and the 2012 samples were included in the comparative analysis (n=197).

Statistical analysis
The amount of total nutrition information (energy values and nutrient values), and nutrient values only, available in-store for each menu item category were compared between 2010 and 2012. As the data were not normally distributed, Wilcoxon Signed-Rank tests were used to determine differences in the availability of nutrition information between 2010 and 2012. Pearson’s chi-square and Fisher’s exact tests were used to compare the accessibility of nutrition information between 2010 and 2012.

Results
The total sample size was 222 outlets in 2010 and 210 outlets in 2012, with 197 outlets common to both survey periods. Outlets in NSW, major cities and high SES areas were over-represented. The socioeconomic and demographic characteristics of the sample are shown in Table 1.

2012 in-store survey
Availability of nutrition information
There were 500 objects of ‘total information’ available in the fast food outlets surveyed. Although 99% (n=208) of the outlets had at least one object available, and 95% (n=199) provided energy values, only 50% (n=105) provided nutrient values. Two outlets (1%), both in a state without menu labelling legislation (QLD), had no nutrition information available. Three outlets had the maximum total amount of nutrition information: five objects. All three had posters, menu labelling, brochures, other information that could be taken (e.g. a napkin with energy and fat contents) and other in-store information (e.g. a sticker).

Most outlets surveyed (97%, n=203) did not provide information for all menu items. As Table 2 shows, nutrition information was least likely to be available for individual components, such as cheese or condiments, (n=56, 27%) and most likely for main menu items, such as burgers (n=192, 91%).

Availability of nutrient values
Overall, 24% (n=122) of the nutrition information objects available listed nutrient values. There were significant differences between chains, ranging from only 5% (n=3) of McDonald’s outlets to 83% (n=43) of Subway outlets (c²=96.01, p<0.001). There were no differences in the availability of nutrient values between major cities and regional and remote locations (p=0.4), SES areas (p=0.7), state (p=0.1) or presence of menu labelling legislation (p=0.5).

Accessibility of nutrition information
Of the 208 stores with nutrition information objects available, 98% (n=204) had at

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least some information that was deemed accessible. Of the 500 objects available, 85% (n=425) had information that was accessible, mainly menu board labelling that had been introduced by the chains in all states surveyed. Of the 122 objects of information listing nutrient values, 70% (n=85) was accessible.

**Additional observations**

In all McDonald’s (n=65) and Hungry Jack’s outlets (n=26), menu boards only included meals, although individual menu items – such as single burgers or sides not listed on the menu board – were available for purchase separately. This meant that kilojoule values were unavailable for some menu items. In all Subway outlets (n=52), pre-mixed soft drinks and/or desserts appeared on menu boards without kilojoule values. In 13 outlets from various chains, kilojoule values were not provided for children’s meals. At Hungry Jack’s, McDonald’s and Red Rooster, kilojoule values were provided for small-sized meals only. For customers who wanted medium or large-sized meals, the menu boards instructed them to calculate the total energy, with advice to “add x kilojoules for medium and y kilojoules for large meals”.

In 36 stores (17%), surveyors were told to access the chain’s nutrition information online. At one Subway outlet, staff provided nutrition information from their US company, listing energy in calories.

**Comparative analysis**

In the 197 stores common to both years of data collection, the total nutrition information available in each store was significantly higher in 2012 (437 objects) than in 2010 (178 objects; z=−10.9, p<0.001). A higher proportion of stores had no nutrition information available in 2010 (32%, n=63) compared with 2012 (1%, n=2). However, significantly more objects with nutrient values, mainly brochures and other written information, were available in 2010 (n=172, 97%) compared with 2012 (n=122, 26%; z=-7.1, p<0.001). This is shown in Table 3.

There were significantly more objects of nutrition information deemed to be accessible in 2012 (86%, n=407) compared with 2010 (76%, n=135; Fisher’s exact test, p<0.05). When only information listing nutrient values was considered, there was no difference in accessibility between 2010 and 2012 (data not shown).

**Discussion**

Our study showed that the total amount of nutrition information (including energy values and nutrient values) available in fast food chains increased between 2010 and 2012. It appears that the introduction of mandatory menu labelling legislation in NSW corresponded with national, voluntary placement of energy values on menu boards by the chains surveyed. However consistent with research from the US, energy values were not available for many menu items or meals, including children’s meals. In some cases customers were required to calculate the kilojoule content for medium and large-sized meals. This makes menu labelling less useful for customers with low numeracy skills. Research in a low-income area in the US reported that some customers may not have the ability to calculate energy content for multiple items. Expecting customers to calculate the energy content of meals made up of multiple items reduces the utility of menu labelling, especially when information for some items was not displayed anywhere in-store. The fact that many fast food customers do not understand kilojoules on menu boards is another factor that may limit the effectiveness of menu labelling.

Although NSW menu labelling legislation specifies that all items on the menu board that have prices displayed must also have kilojoules, prices were not always displayed, therefore kilojoule values were often missing. Labelling kilojoule values only on selected menu items also means many customers have insufficient information to make fully informed choices. In this respect, little has changed since 2010, when incomplete information was available in many stores.

Overall, the adoption of menu labelling in all states surveyed when specific legislation was
only implemented in one state is a potentially positive outcome. But it appears to have come with the loss of other information listing nutrient values, mostly as there were less brochures or other written information available. This made fully informed choices difficult.

Although not included in the NSW legislation, additional information on other nutrients, such as saturated fat, can reduce consumers’ intentions to buy menu items high in these nutrients. Providing such information may improve knowledge of the nutrition composition of fast foods and lead to healthier choices. Our study shows that compared with research preceding menu labelling, customers now have less information available to them to help them compare the nutrient contents of menu items in-store. To allow customers to make fully informed choices and potentially reduce the detrimental impact of the high energy, saturated fat, sugar and sodium levels in fast foods, fast food chains should provide information in-store on these nutrients for all menu items available. It may be challenging to provide this much information on menu boards, but chains could provide additional written information in-store, as many did previously.

While early evaluation of menu labelling in NSW showed a decrease in kilojoules purchased, the public still do not understand kilojoules and public education on menu labelling has not yet been evaluated. Further research is required to determine the most effective education strategies to make it easier for customers to understand and use menu labelling to make purchases with fewer kilojoules. A limitation of this study is that consistency with previous research meant that some Australian states and territories were excluded. However, as five of Australia’s eight states and territories were included and the chains have similar menus nationwide, it is unlikely that the excluded states would make major differences.

The outlets were selected from a convenience sample. By including a range of outlets from various SES areas, regional and remote outlets and five states, the study sought to minimise biases. The study also oversampled metropolitan outlets; however, this reflects the higher concentration of outlets in these more densely populated areas. Despite these limitations, the outlets included allowed direct comparison with the previous study. This study included Australia’s five largest fast food chains. To the authors’ knowledge, no research has looked at the availability and accessibility of nutrition information in smaller chains or pizza or café chains. The chains included in this study were generally compliant with the legislation. However, most outlets did not go beyond the legislative requirements and provide information with nutrient values in-store, even though many had done so prior to the introduction of the legislation.

**Conclusion**

An increase in the availability of energy values was seen in outlets in all states surveyed, coinciding with the introduction of mandatory menu labelling in NSW. However, energy values were not provided for all menu items or meals, and the chains surveyed also had less information including nutrient values. The fact that more nutrition information was available in-store in 2010 shows that fast food chains are able to provide comprehensive nutrition information, yet they have stopped doing so. The menu labelling legislation should compel fast food chains to provide accessible nutrition information, which includes nutrient values in addition to energy, for all menu items in-store. By doing so, customers will be assisted in making informed decisions based on the nutrient composition of the food. In addition, public education campaigns are needed to ensure customers can effectively use the energy values already available.

**Acknowledgements**

This work was supported by the NSW Ministry of Health. The views expressed in this publication are those of the authors and do not necessarily represent those of, and should not be attributed to, the NSW Ministry of Health.

**References**


**Table 3: Comparison of the total amount of nutrition information and nutrient value information available in 2010 and 2012.**

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th></th>
<th>Median</th>
<th>2012</th>
<th></th>
<th>Median</th>
<th>Z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objects of information</td>
<td>178</td>
<td>1.00</td>
<td>473</td>
<td>2.00</td>
<td>-10.85</td>
<td>&lt;0.001*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutrient information**</td>
<td>172 (97)</td>
<td>1.00</td>
<td>122 (26)</td>
<td>1.44</td>
<td>-7.14</td>
<td>&lt;0.001*</td>
<td></td>
<td></td>
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</tbody>
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*Wilcoxon Signed-Rank Test; p < 0.05
**Includes kilojoules and nutrient values
***Includes only listing information listing nutrient values

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